The Builder.

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THE last of Mr. Weale's rudimentary treatises, namely,—"The Principles of Design in Architecture, as deducible from Nature and exemplified in the Works of the Greek and Gothic Architects," by Mr. E. L. Garbett, Architect,—is a very noticeable work, full of thought, and showing much ability, though with some vagaries. A powerful rebellion against the doctrine of mere copyism has sprung up, and Mr. Garbett is a new and not weak ally. Our question, often put in times gone by,—shall architects only copy?—is finding an answer in the negative in many quarters, in loud, and sometimes not too courteous, tone. Mr. Garbett says No, too, and would point out what they may do instead.

It is not a trifling thing to give freedom of thought — to strengthen men to speak out when what they feel to be true and right is contrary to the prevailing opinion, and to enable them to throw off habits which are so much more easily acquired than quitted. "What I affirm," says *Mr. Newleafe*, "is that the true principles of criticism are not comparison with authorities, but abstract test by principles of nature and reason. I say, when you design go to your own intellect to guide your hand by *its* regulations—not to books and dogmas and rules of styles; go to nature and the principles of human judgment and taste. 'He who would really become an architect must leave the special discussion of styles, and steadily look to the true end and aim of his art.' So says Professor Cockerell; and it is a gleam of living light appearing in dead darkness when he says so. May it increase and increase till men can see by it! But how strange that it should be so wonderful a thing to find an artist telling artists to go to nature! Vague and weak as are the words, yet hear them, hear them and *ponder them*—'*the end and aim of the art.*' The ancients went to nature when they produced those very authorities you go by; the originator of every style in your registry must have gone to nature for his principles; and I say, instead of tethering yourself by these, go *you* to nature also."

And here we will take the opportunity to say that Mr. Kerr's "Discourses on the Fine Art Architecture," first published in our pages, have not received that acknowledgment from the recent travellers in the same path which the latter owe them.

The plan of Mr. Garbett's little work is said by the author himself to be this:—The first chapter asks what is architecture, and what are the objects at which it aims? In the three following an endeavour is made to deduce from the works of nature, and from the consideration of these objects themselves, some rules and principles which might be expected to conduce to their attainment; and to show that these principles have really presided in the most successful productions of the art. In the last two chapters he examines the two architectural systems—classic and Gothic—concluding with some remarks on the present state and prospects of the art.

After maintaining that all buildings which are planned on simply utilitarian principles—built with no view beyond utility and strength—are not merely indifferent, "but positively hideous and disgusting to the eye," he falls upon the amusing notion that an architectural building is ugly, simply because it looks *selfish!*

"A great building is, in certain respects, a necessary evil; it shuts out from us air and light, and the view of beauteous nature; it encumbers a portion of the earth's surface, and incloses a portion of the free atmosphere. *It has no right to do so* without making or attempting what compensation it may, for these injuries. Therefore, the building which makes no such attempt, offends all eyes,—I should rather have said all minds."

Again:—

"A building devoid of architecture displeases all who see it,—all whose share of heaven's light is intercepted,—whose view of the fair earth is bounded by it; because they see and feel that it benefits its owner at their expense;—they have not been thought of in the design; it is *all* for self, without appearing to care whether they are incommoded or not, or to know that there are eyes without as well as within. It is this crude, selfish *rudeness* which requires to be softened down by a *politeness* either natural or acquired, and this politeness we term architecture. It is only one portion, indeed, of the aim of 'architecture proper,' but it is the most indispensable portion, without which all attempts at the higher aims of beauty, sublimity, or definite expression will be totally useless. The building that aims at being any thing more than useful and strong, must first be polite. This is the lowest quality in architecture as distinguished from building."

Every building must show an aim beyond convenience and stability. "If this desire to appear unselfish be wanting, it is waste of time to attempt elegance, waste of money to add decoration; all the graces of Palladio, and all the ornaments of Barry, will avail nothing; the mask will never completely cover you; your real self *will* peep out somewhere, and spoil all." This is really a little too hard, since it would seem to assert, that although a building be made something more than useful and strong,—has not only "fitness and stability," but "beauty" also,—unless this beauty was expressly given for the pleasure of others rather than the owner, it is still a *selfish* building, an *unpolite* structure, and is therefore not architecture. A building erected wholly in accordance with some popular fashion (no matter how wild that fashion may be), and even if quite unsuited to its purpose and the wants of its occupier, must be the perfection of courtesy and politeness—"the first quality in architecture as distinguished from building." The writer thinks his remarks may perhaps "place the question of architecture or no architecture in a light which never struck the reader before." We confess to this ourselves, and moreover that we think the light is a false one.

With the inference of the author we fully agree, have often urged it, though we deduce it from different premises; and we would have it well known and thought of:—

"If, as all admit, it is the mind, and the mind alone, that sees, tastes, feels, likes, and dislikes, objects of art or taste, are not these self-preservative antipathies of the mind to be respected, as well as those of the body? Does not this become a matter not of refinement and luxury, but of *interest* and DUTY? Are not ugly objects to be withdrawn as *inflicting mental injuries*, just the same as a nuisance, a noise, or a stench, which is known to be injurious to the body, because unpleasant? We may laugh at the idea of the mental injury accruing from one glance at an object of bad taste; so we may at the bodily injury from a passing whiff of smoke: yet we acknowledge a difference between the health and longevity of those who live in smoke and those who live out of it. Habit counteracts and renders us insensible to the unpleasantness, *but not the injury*. Who, then, shall dare to guess the difference in *mental health*, between a people living surrounded and immersed in objects of bad taste, or in objects of good taste,—between a people whose works are *all* utilitarian, and one whose works are *all* artistic. These extreme cases, remember, are not imaginary. History has afforded examples of both."

The writer continues to press his notion that the spectator must see that the thought bestowed on a building, has been given for *him*.

"It is exemplified," he says, "by the ornate villas that spring up along suburban roads. Every one feels that, with all their ornamental frippery, their aspect is as uncourteous, as intensely selfish in expression, as that of the 'hole-in-the-wall' house backs, or any other pieces of professedly unarchitectural building. This is because every spectator sees that there has not been a thought bestowed on him. The whole has been designed from within, like the oyster's shell, without the slightest reference to those without; and then they have been sought to be appeased by sticking on ornaments wherever there was a place for them. But this will not do; no one is so easily deceived as this. You cannot 'hide by ornament the want of art,' still less the want of thought and study."

Certainly not, and this is the true reason of the want of pleasure to the spectator: let him see the evidence of design, the result of cultivated thought, and he will not stop to ask whether the thought was bestowed for him or the owner. There is no substitute for thought; and this our author ably illustrates in another part of his work:—

"Among the few that enlist on the side of truth, and resolutely engage in this perpetual conflict against false, against popular, against national taste, it must ever be borne in mind, first, that *there is no substitute for thought*. All the ponderous tomes of examples, specimens, &c., from Adams and Stuart downwards, have been intended or received for this purpose, and, *as such*, are not only totally worthless, but extremely prejudicial, though invaluable as materials for analysis, free criticism, and search into principles,—for which purposes they have never yet been used.

Nothing can increase the value of a design, which does not increase the labour of the designer (by designer I do not mean draughtsman). *Every reference to precedent should do this, and will do so with every true artist.* But the false artist refers to precedent to save himself trouble,—that is, to cheat his employers, by diminishing the value of his work without diminishing its apparent value."

The province of *expression* in architecture he thinks overrated:—

"To distinguish a club house from a mansion is beyond the province of expression in any art. It is not to be done by expression, but only by language, and architecture does not pretend to be phonetic. If you want to distinguish the destinations of these buildings, *the best way is by writing up their names*. It was not always the best way. Hieroglyphics, arrow-headed letters, insignia, coats of arms, were each preferable in their day, simply because they were more extensively understood, and *for no other reason*. You may make a language of any thing—rustic quoins, Gothic windows,—provided people will agree to understand them alike, and take this for *church*, or that for *club-house*; but what is the advantage of substituting a new and extremely limited language, understood by very few, for an established and incomparably more copious language, understood by the whole nation?"

Against *deception* in architecture, he wages proper war; until we can be taught that nothing is beautiful which is not TRUE, we shall find taste a jewel beyond the reach of all England's wealth to buy, and of all her power to win.

The sixth chapter, treating of the constructive principles of the mediæval architects, is ably written, though containing much from which we differ. The author's opinion of the parish churches left by the mediæval builders is singularly erroneous: if he had given them the study they deserve, he would not say "those who built them were totally ignorant of the principles of that or any other architecture, repeating as well as they could the mere details, empty forms, or clothing, of the only architecture they saw—that of the scientific fraternity of Gothicists—without *the remotest conception of its meaning, motive, or principles!*"

Mr. Garbett has little hope for the future; "the general taste can never improve. Pure taste can never again prevail; but it can *fight*;" and to this he leaves it. He thinks we have a *national style*, and the view he gives of it is not very flattering to national character.

"More distinctly than the Egyptian piles speak of tyranny, slavery, and priestcraft;—more fully than the Greek express intellect, polish, and refinement;—more loudly than the Roman proclaim ambition and general energy;—more truly than the Gothic embody a religion, or rather a romantic devotion;—more than all, does every form and feature of the modern English style express fickleness, low cunning, hollow affectation, simulation, servility, and thought-flying hurry. What! are these then our national characters? No, but they are the characters of the *many* in every nation; and we are as yet the only nation that have a style of the many. I appeal to all who have ever returned to our shores, after a long absence, to say whether they could shut their eyes to the hateful expression that met them in every building;—whether they could at first walk our streets without being disgusted, and, if of a sensitive temperament, almost sickened, by the intensely marked character of the architecture."

We will simply add, that the principle which he points to as the basis for a new system is the *truss*, in opposition to the beam and the arch, the basis of past systems; and will conclude with a quotation which embodies much of what has been already said, and deserves constant consideration:—

"A retrospective glance at the history of the Gothic system, as of every other, will show us progress, as long as the object of the artists was *Truth;* decline, the moment that object became *Novelty;* progress, as long as minor and decorative forms were *imitated* from great structural and essential ones (but so modified as to be brought into a lower class, more curvilinear, more eumorphic, less architectural); decline, the moment structural forms were *copied* from decorative ones, and whenever copying was substituted for imitation; progress, wherever the great governed the little; decline, wherever the little governed the great; progress, whenever the problem was how to adorn a proposed construction; decline, whenever it was how to construct a proposed adornment; truth, whenever it was sought for its own sake; falsehood, when *any thing* else than truth was the object; truth, whenever the work was loved for its own sake; falsehood, whenever it was got through for the pay's sake; truth, as long as it was sought *how to lavish most thought on a given amount of work;* falsehood, as soon as it was sought *how to effect a given object with the least expenditure of thought.*"

DAMAGE FROM FALL OF HOARDING.—In Queen's-road, Brighton, a screen having been run up 25 feet, for the purpose of blocking up nearly all the windows of a rival establishment, the screen fell, and, as alleged, caused damage to the building; and a jury in the home circuit, before whom the case was lately brought, has given a verdict of 25*l.* damages: the point of legality in such an erection—the sole purpose of which was admitted—does not seem to have been considered.

HOW SHALL WE BUILD OUR CHURCHES?

I beg to offer a few remarks on a letter which appeared in your last number relative to a recent pamphlet of mine. I may premise that I am totally unacquainted with the writer, and therefore my observations must not be considered in the slightest degree personal, as I merely judge of his principles from his argument. I must say it was with no little surprise that I found myself attacked as the advocate of an artificial system of architecture, when not only by my writings but in my works I have always endeavoured to set forth that most important principle of *reality, both in design, material, and construction,* and of scrupulously avoiding all shams, or dressing-up of buildings with unreal features. But on a further perusal of the article, I felt satisfied that the writer belonged to a class of persons who are not in a position to comprehend the basis of my arguments, or the principles on which I, in common with so many persons usually termed ecclesiologists, advocate the restoration of ancient ecclesiastical architecture. It is evident that the writer's idea of a place of worship is nothing more than a preaching-room. What he calls a *common-sense church* is, in reality, no church at all, but a most decided *conventicle*. He would abolish pillars, as hindering a view of the preacher; he advocates galleries, as affording cheap accommodation to a large auditory; he objects to a deep chancel, as *diminishing* the *voice* of the clergyman (he evidently imagines a chancel is a preaching place); with him it is all *vox*, and, I may add, *præterea nihil*. I am willing to admit that his common-sense church is perfectly adapted for persons of his class, who are unable to enter either into the solemnities of religious worship, or the symbolism of ecclesiastical architecture; his great galleried room, with its flat roof and open space, is a very natural expression of a huge dissenting preaching-house; moreover, it possesses the advantage of being what is technically termed a convertible building; should the orator fail in collecting a sufficient auditory to pay the proprietors, by removing the pews and erecting an orchestra, it would make an excellent casino, with reserved seats in the galleries; or if that might be considered objectionable on moral grounds, or the neighbourhood too retired, by flooring it over in stages a most eligible set of coachmaker's premises are produced at a comparatively small additional outlay. Now I do not quarrel with this class of buildings in the abstract, for they are perfectly adapted to the purpose, and it would be exceedingly ridiculous and even painful to see a puritan whitening over his sepulchre, and putting on a catholic coat. But let not those whose ideas do not extend beyond such miserable edifices venture to set themselves up as standards of ecclesiastical architecture, and imagine that the temples of God are to be brought down to such a despicable level. Do not let them suppose that the erection of a great Christian church is a mere question of huddling a number of persons together, and covering them over in the most economical manner. No; the edifice must be so constructed as to symbolize the mysteries of religion, not only in its plan, but in all its arrangements and its minutest details,—an edifice that, both by its external form and internal disposition, bears unquestionable evidence of its sacred purpose. No one would think of putting forth a great cathedral, or pointed church, as either an economical building or one easily constructed, or even convenient, according to the modern acceptation of the term. The cruciform plan entails numerous practical difficulties, and yet it is the very foundation of every great church in Christendom. The enormous height, another remarkable symbolical feature, requires a vast deal of most costly and difficult construction. I do not imagine that the designs of the ancient church builders were framed with reference to economy or facility of erection; their great aim was to produce an edifice that should illustrate the majesty of its purpose, and they spared neither pains nor cost to accomplish this end. Their works bear on their face the indelible stamp of faith, love, and devotion, and it is the unearthly look of these glorious fanes which forms one of their greatest charms, and by which they are so nobly distinguished from all other architectural productions; now, as the faith of the church is unchangeable, the form and arrangements of an ancient church are just as appropriate for the nineteenth as for the thirteenth century; a noble pile, cruciform, lofty, and long, surmounted by spire-capped towers, surrounded by lateral aisles and chapels, provided with a screened choir and solemn sanctuary, with all its costly and beauteous furniture, is as much a natural expression of the Catholic religion in the present age as it was when the third Henry finished the choir of Westminster, or St. Louis dedicated the Holy Chapel of Paris. The externals of religion undoubtedly suffered a lamentable debasement during the last three centuries, but the *things* and *principles* remained, though under a distorted appearance; and by getting rid of this unnatural incrustation, and returning to the old and appropriate forms, we are not assuming a *disguise*, but only regaining our *natural habit*. Ancient forms for ancient rites is an undeniable proposition, and while we retain the old faith, we will retain that which it originally created for its service; hence we are fully justified in building the temples of God after the manner of our fathers, and not abandoning their wonderful traditions for modern expediency; indeed, a Catholic church should present, both in its architecture and arrangements, a striking contrast to the ordinary erections of the day. Civil architecture, owing to the natural constitution of society, is perpetually changing, and it would be great folly for any man, through an abstract love of mere antiquity, to oppose the modifications and constructive improvements that the altered state of society may require in domestic buildings. I have enlarged in some former publications on this very point, and was one of the first to expose the folly of reviving castles and other constructions, adapted only for mediæval warfare: whatever tends to public convenience, health, and prosperity, would be adopted by any reasonable man, and it would be preposterous, in edifices purely connected with commercial speculation, to diminish the returns by wasteful and extravagant architectural outlay. But I am moved to indignation when I find a man advocating the erection of religious edifices by the tariff of a warehouse, and lowering what should be the highest productions of human skill, to the level of mere building speculations. He is quite mistaken in ascribing my wish of massive buttresses and thick walls to a mere attainment of useless effect. If I had been able to erect them, I should have covered my chapels either with stone vaults or with roofs of a far more elaborate and appropriate character; his most scientific truss would be utterly disregarded by a true church builder; the temple of God is not to be roofed over like a station or fish-market; but the covering, by form and decoration, should symbolize that celestial region to which the worshippers beneath aspire. Let us examine one of those fine old roofs at March, Wymondham, St. Peter's, Mancroft, or any of the great timber-covered churches of the period, and what do we behold? A whole hierarchy of angels seem to hover over us, with outspread wings; they sally from every beam and corbel, and extend from bay to bay; in the hands some bear the emblems of the passion and man's salvation; others scrolls and phylacteries, with many a text and legend; each purlin, principal, plate, and rafter is richly moulded and twined with flowrets and tendrils. The deeply set pannels were once brilliant with stars and celestial bodies; the whole roof is glorious, and fully illustrates the inspired canticle—"O ye angels of the Lord, bless the Lord, praise him, and magnify him for ever. Oh, ye stars of heaven, bless the Lord, praise him, and magnify him for ever." When we consider these unrivalled roofs in all their bearings, their great variety of ornament and detail, the artistic beauty of their execution, and the symbolism and unity of their design, we must regard them as wonderful examples of ancient skill, and whatever improvements may have been effected in the scientific part of modern carpentry, it will be long before it produces a covering of such rich and harmonious beauty. Indeed, I should feel far greater satisfaction in having been the designer of one bay of those noble

roofs, than in trussing a pair of principals over Russell-square.

It now only remains for me to notice a most marvellous idea of the writer, that the massive walls of the ancient churches were so constructed on account of the *scarcity of skilled artizans* during the Middle Ages; and he asserts this, in the face of all the great existing ecclesiastical buildings, which, though not one half of what were originally raised, are still so numerous as to excite our astonishment; and, if these buildings have a fault, it is in the superabundance of skilled labour of the very highest order bestowed on them: many of them are literally covered from base to spire-top with wonderful geometrical intersections of mouldings and sculptured detail. Moreover, no men understood the combination of lightness with durability, *when it was requisite*, better than the old masons, as is fully shown in their lofty spires. The observation is not only an insult to the ancient artists, but to common sense, as any one acquainted with the old buildings must feel. I hate the modern boastful spirit which would exalt the mechanical superiority of our age at the expense of all that is admirable in the past. For my own part I never return from the examination of one of these glorious old churches, without feelings of the deepest humility: when I consider the amount of thought, practice, and labour it requires to reproduce one out of the multitude of their magnificent details, I can duly appreciate the talent that originally formed them; and if with all our increased facilities we find it so difficult to restore, what veneration ought we not to feel for the *creators* of this divine style! When, therefore, I find a man who, having attained some mechanical skill and experience in the tension of timber, attempts to laugh down as clumsy contrivances the great roof at Westminster or the stupendous vaults of Cologne, I cannot refrain from exposing the fallacy of his positions. I have no doubt that he is a very good and useful man in his way, and if I had to construct a viaduct over a canal at the least elevation, I should gladly avail myself of his trussing experience; but do not let him interfere with the masons of the church. We pointed men have pointed tools, and can contrive occasionally to cut other things besides crockets.

A. WELBY PUGIN.

ON THE MAUSOLEUM OF HADRIAN, NOW THE FORT ST. ANGELO, AT ROME.*

THE mausoleum was formed of a large basement, which measured 253 feet on each side, making a peremeter of 1,012 feet. The door, or entrance, was in the middle of the south side, facing the passage across the bridge. At the four angles of this solid basement were colossal statues, or trophies—I rather suppose them to have been those horses which are mentioned by the Monk of Antioch; in the centre of this square massive foundation, which was adorned by festoons and bucrani, rose the round tower, which still, in a great measure, exists and serves as the donjon or keep of the castle. This tower did not diminish towards the top as some have supposed, for Procopius measures the diameter at the top by the same expression of a stone's cast, as he measures it by at the bottom; though diminished by all the marble facings in width, it still yields a diameter of 188 feet. The round mass was compacted together of peperine stone and the usual materials employed in solid Roman works; but it was all faced with square blocks of Parian marble. We must accede to the generally received opinion that two magnificent colonnades were round the monument, dividing it into two stories, and that statues stood in the intercolumniations. These statues were probably *chefs-d'œuvre* of art. The famous Barberini Faun, which was found by the pontiff of that name in a ditch of the fort, is a specimen; the dancing faun in the Florentine gallery is another; these had either fallen from their place, or had been used by the troops of Belisarius for overwhelming their assailants. The summit of the edifice, which finished in a dome-shaped roof, was crowned, as some think, by the large bronze pine found in digging the foundations of the S. Maria Transpontine, and which is now to be seen in the gardens with the Vatican. But it was in conformity of the ambition of the Roman Emperors to have their *statues* erected on the summit of their monuments: witness the columns of Trajan and Marcus Aurelius, and the corresponding sepulchre of Augustus. The bronze pine would be a more appropriate ornament for some edifice in the gardens of Domitia, in which the mausoleum was erected. Moreover we have it stated by one of the ancient writers I have quoted, that there was the statue of Hadrian somewhere about the tomb. I have, therefore, in spite of some celebrated antiquarian architects, taken the liberty to place the statue of Hadrian on the top of his mausoleum. From the intimation we have of the ox-heads and festoons, and the inscriptions on the frieze, I have represented the basement as Doric; the first row of columns above would naturally be Ionic; and if the columns in St. Paul's Basilica were really taken from this tomb, they speak for themselves, and will justify us in exhibiting the upper row in the glory of the Corinthian. Upon these data and surmises, therefore, I have presented to you the mausoleum in its exterior, as I suppose it originally to have been; and we may safely conclude that it remained in all its pristine magnificence until the time of the Emperor Honorius, 402. Let us now go within. The spiral corridor, which leads from the entrance to the sepulchral chamber, was entirely excavated in 1820. Beginning from the original entrance facing the bridge, a lofty arch of travertine stone forms the ingress, and leads into a spacious vestibule. Opposite the position of the door of entrance there is a large niche, which no doubt contained the statue of the Emperor: a colossal head, now in the Vatican, and a hand discovered in the excavations, probably belonged to the said statue. In a compartment on the left side of the niche is a fragment of a cinerary vase of marble, with some letters upon it, which was lying there when I examined the interior of this monument in 1829. The spiral corridor, by which we now begin to ascend, is about 11 feet in width and 30 feet in height, built of the finest brickwork; the bricks 6 feet long; but the whole has been coated with precious marbles, as appears from the continual fragments still found, and the traces of them yet sticking to the walls. The ascent is not by steps, but by a gently inclined plane, winding round the monument, and showing specimens of the mosaic flooring still adhering to their original places. This wonderful passage was lighted from above by those openings called in Italian "abbaini;" they are cut through the massive covering in pyramidal forms. The light cannot enter by them now on account of the modern works of the fort, which lie over them; and hence this corridor can only be seen by means of torches at present. Pursuing this circular passage we ascend until we arrive where the modern staircase and the light of day meet us, and turning by an arch we come upon the sepulchral chamber. It occupies a space of about 25 feet square, and is lighted by a window at each side, which exhibit at the same time the immense thickness of the walls. Beneath the modern steps are found some cells with lateral niches; in the one on the left of the staircase the French consuls were imprisoned in the great revolution. The sarcophagus of black and white granite, now in the Museo Pio Clementino, together with the busts of Hadrian, very probably once occupied this chamber. We must not, however, omit to mention that the large bason of porphyry, which serves for the baptismal font in St. Peter's, and the porphyry urn which was taken from the tomb of Pope Innocent II., and several objects of equal value, all came out of the mausoleum. So that if we consider its marble lined walls, both inside and out, the mosaics of the floors, the beautiful columns which encircled its peristyles, the exquisitely finished statues which adorned the upper stories, the bronze figures which ornamented the basement and surmounted the dome, the alabaster urns and sarcophagi of precious marbles which this treasure house once concealed, it would be difficult to over-rate the magnificence and cost of this gorgeous monument, or to exaggerate the folly of the man who reared it for such a purpose. But the imperial architect little dreamed the purpose to which posterity would put his proud sepulchre, nor to what strange vicissitudes he should be indebted for the perpetuating of his name and the celebrity of his grave.

The history of this monument does, in fact, become a history of Rome itself; and, perhaps, before I proceed to speak of it under the modern appellation of Fort St. Angelo, you may be interested in hearing the vicissitudes through which it has passed. From the time that it was joined to the city walls, A.D. 423, it may be considered no longer as a tomb, but as a fortress; and, after being frequently taken by the Goths, and retaken by the soldiers of Justinian, it was left in the hands of Narses the Eunuch, in 552, and afterwards transmitted to the Exarchs, who succeeded to power in Italy under the Greek emperors.

In the year 908 this citadel, for so I may now call it, is found in the possession of Albert, surnamed the Rich, one of the Counts of Etruria. This prince was admitted to a share of the fortress, by a Roman lady, Theodora, more illustrious for her extraction and power than for her chastity. Her daughter Marozia, more beautiful than her mother, but not more modest, kept the citadel as a place of security for her guilt, and at length she celebrated her nuptials in it with Hugo, called King of Italy, and she gave him up the whole for a dowry. It passed through several members of this family, in succession, until it reached Pope John XII., and then it was for the first time possessed by the Bishops of Rome, A.D. 956. They were masters of it for about twenty-seven years, until it was seized by Crescentius, upon the pretext of defending his consulship. He made entrenchments and outworks to it, in order to defend himself against the Emperor Otho III., who came to espouse the cause of the Pope; and, after a protracted quarrel of eleven years, it was finally recovered for Gregory V. It continued to be called, for a long time after, the Tower or Castrum of Crescentius.

During the succeeding ages, and again in the time of the troubles of Rome, which drove the Popes to Avignon, and comprising the career of Rienzi, last of the Romans, the fortress held a conspicuous place in history. But on the return of the popes to Rome, 1376, it fell into the hands of the French cardinals. Through these dark ages it was suffered to fall into decay, until Boniface IX. renewed the fortifications, after the designs of Nicollo di Pietro Aretino. After this it was taken by Ladislaus, King of Naples, but was again restored to Pope Martin V., 1431. But the first important additions of modern times were made by the famous or infamous Borgia Alexander VI.; he raised the round tower higher, and erected a bulwark of travertine stone between it and the bridge, almost as we see it in the present day. He also constructed the covered gallery, which communicates with the Vatican, about 3,000 feet in length. The arches under the gallery were made by Pius IV., and it was roofed by Urban VIII. Borgia just finished his work in time for his own personal security. On New Year's day, 1495, the King of France (Charles VIII.) with his army entered Rome by the Porta del Popolo, while Ferdinand, King of Naples, left it by the Porta St. Sebastiano. The pope, says Guicciardini, "pieno d'incredibile timore e ansietà," took refuge in the Fort St. Angelo, accompanied by Cardinals Orsini and Caraffa. Alexander VI. refused to give up the Fort to the French, in 1495, but the Pope Borgia sent four cardinals to treat with the French monarch, and succeeded in effecting a brotherly alliance. The Pope of 1848 sent three cardinals to treat with a French general, and as it appears, with equal success, for the Fort St. Angelo remains in the hands of the pope. The similarity which exists between those transactions, separated by a space of four centuries and a half, is most striking.

Pius IV. was the next pope whose works are worthy of notice; they were not confined to the fortress, but he enclosed the whole of the Vatican and brought his walls down to the Tyber, at the Porta St. Spirito, enclosing the old walls of the Leonine city. Finally, Urban VIII., 1644, completed the walls on the Transtevere, as we now see them, by drawing the line from the walls of Pius IV., and along the top of the Janiculum, and bringing them down to the river at the Porta Portese. The

* See p. 123, *ante*.

gate of St. Pancrazio and the bastions on each side, rendered so celebrated by the siege of 1849, were all the work of Pope Barberini Urban VIII., and as if anticipating a visit from the old friends of Italy, he appears to have made them much stronger than General Oudinot expected. It was this papal engineer who stripped the Pantheon of its bronze to melt down into cannons for defending the improved fortress of St. Angelo. I have purposely omitted all allusion to the assault of Rome by the Connétable Bourbon, and the bombardment of the Fort St. Angelo, with all the adventures of Benvenuto Cellino, in 1527, and when Clement VII. (Medici) took refuge in the fortress.

But having seen this fortress become the occasional residence of popes and cardinals since the revival of the arts, we shall naturally conclude that these dignified persons, who have no great antipathy to luxury out of Lent, would not be lodged in rude sepulchral chambers, nor shut themselves up within walls of peperine stone or naked brick-work. In a saloon in front, which communicates with the balcony facing the bridge, you have some pictures of Pierino Buonaccorsi, called Del Paga, a scholar of Raffaelle; and in the balcony opposite are to be seen some of the designs of Girolamo Siccedante da Sermoneta. But these are nothing compared with the beautiful arabesques which adorn the ceilings of some of the other rooms.

* * * *

I should be afraid to trust myself with a beginning of reflections upon the subject I have now finished, for I should be sure in that case to end with a sermon. I will only remark, that however our curiosity may be excited by the stupendous works of antiquity, and however our taste may be gratified by the enchanting powers of art, nothing really interests, either in history or description, but that which was founded for the benefit of mankind, and carried on through ages by the virtue of benevolence. Time is said by our poet to be the beautifier of the dead; but he has not traced a line of loveliness upon the ashes of the selfish emperor who reared this tomb for his own vanity. Time is said to be the adorner of the ruin; but time has but added deformity to the splendid mausoleum. It is some consolation to know that "glory, built on selfish principles, is shame and guilt;" and it may be a moral lesson, not unworthy of the artist and of him who builds for posterity, to learn that whatever in the way of monumental grandeur is not associated with virtuous sentiments, or, as I should say, with morality and religion, will hand down no name to posterity with the reverence and respect, which the architect and the artist, not less than the statesman and philosopher, may lawfully seek to deserve.

RICHARD BURGESS, B.D.

ROYAL INSTITUTE OF ARCHITECTS.

THE ordinary meeting of 18th instant was numerously attended, the paper of the evening, Mr. Smirke's, being one of an interesting freshness of subject, namely "On the Style of Ornamentation prevalent in the Assyrian Sculptures recently discovered, and on some Peculiarities of Assyrian Architecture as exhibited therein." Curiosity was doubtless further stimulated by an exhibition that was to follow, of some new instruments for describing the entases of spires or columns, volutes, and other curves adapted to architectural lines, by Mr. Jopling.

Previous to entering on the main business of the evening, Mr. P. C. Hardwick was elected a fellow, and it was announced that Earl de Grey had taken on himself the burden of providing the fifty guineas voted to the International Exhibition, thus generously settling at once the questions of bye-law and expediency on this point.

Mr. Smirke's paper entered minutely into the details of his subject, and contained many curious and striking allusions gleaned from scripture and from old historians, and comparisons with Egyptian, Greek, and other styles of ornament, sculpture, and architecture, deducing various interesting questions as to origin and affinity. The paper was illustrated by casts from the British Museum and drawings bearing on the ornamental details. As we shall probably recur in THE BUILDER to Mr. Smirke's paper, however, we need not dwell further on its details, at present, than to observe that at the conclusion the speaker remarked, with reference to one of Dr. Layard's most recent discoverie,s of a singular and unaccountable heap of valuables in the palace at Nimroud, that an ingenious pupil of his own had pointed his attention to a passage in Diodorus Siculus, on the fate of Sardanapalus, which appeared to shed a curious light, perhaps on these very discoveries. The passage in question relates to the funeral pyre in which all his valuables were *collected together* with his ladies and his eunuchs.

Mr. Donaldson referred to Le Brun's work published 100 years since, to show that the style of the Nimroud ruins was identical with that of Babylon, Susa, and Ecbatan; and he was of opinion that Dr. Layard's discoveries shewed but a section of a very extensive class of architecture and art spreading over a vast line of country in ancient times.

Mr. Bellamy (chairman) remarked that the arched form of one of the fortifications on the Assyrian sculptures seemed to indicate a knowledge of the principle of the arch.—Mr. C. H. Smith referred to the question, whether the Assyrian alabaster were, like the Egyptian generally, carbonate of lime rather than sulphate or gypsum. Dr. Buckland had regarded them as alabaster-proper, or sulphate, from their crystallization, but not from analysis.

Mr. Fergusson said, with reference to the suggestion made at the close of the paper, that in the most recent of Dr. Layard's discoveries the throne of the king had been found, with the rings of a curtain, and even gold threads, &c., of the curtain itself, and that the ornaments were perfect, which did not indicate that fire had destroyed the palace. Besides, it had been clearly ascertained that Nimroud was not Nineveh. Major Rawlinson was quite convinced of this. The site of Nineveh was pointed out, but not yet excavated. Mr. Fergusson then explained a peculiarity in the yoke and harnessing of a chariot on the sculptures, as quite well known, and still practised, in India. The honeysuckle ornament, or sacred tree of the priests, was also an Indian peculiarity. In reference to a point treated of by Mr. Smirke, Mr. Fergusson said that traces of the Greek Doric style appeared in Egypt from Nubia downwards, and that while he referred the Greek Ionic to Asia, the Greek Doric should be referred to Egypt for its origin.—Mr. Scoles differed a little from Mr. Fergusson. He had only found two instances of any thing like Greek Doric in Egypt, with very imperfect abacus.

Mr. Penrose, at the close of the discussion, exhibited Mr. Jopling's instruments, already referred to, with a few remarks on the advantages to be derived from them, and an illustration of their mode of use. It was while engaged in the endeavour to realize such instruments, that he became aware that Mr. Jopling had carried the subject to so great an extent and with such beautiful results. One of the instruments was merely a straight edge, tapering from one end to the other, and the bar of a trammel with a fixed peg and a moveable one. The bar, while crossing the straight edge and guided by the pegs, one at each of the tapering sides, and drawn along, gradually altered its cross-angled position with relation to the straight edge as it went along, and traced the resultant curve with a pencil at one extremity. Another instrument, describing a portion of the volute, which it also completed by repetition of the process, consisted simply of a piece of wood, to each end of which one of the usual pin-points was attached by the thread ordinarily used, the wood or pencil-holder thus standing in the place of a portion of the thread itself, and in turning forming the curve.

The chairman said the instruments seemed to possess very great merit: they were both new and important.

THE COMMISSIONERS OF INQUIRY INTO THE MARKET OF SMITHFIELD and the other markets, for the sale of live and dead meat in the metropolis, will make their report immediately after the Easter recess.

ROYAL SCOTTISH ACADEMY.—Mr. John Watson Gordon, A.R.A., has been unanimously elected president, in the place of Sir William Allan, deceased.

ABOLITION OF THE BRICK DUTY.

THE Chancellor of the Exchequer made his financial statement on Friday, the 15th inst., and in the course of it, after expressing his anxious desire to improve the dwellings of the poor, said it was impossible, under the present system, to procure those comfortable cottages for the labouring classes which all would desire, no remunerative interest could be expected by those who built them, and the Government thought it right that no legislative obstacle, at any rate, should be imposed on those who might think of doing so. Seeing that the evil was not confined to the cottages of the poor, but that the health of towns and cities was deeply affected, he was prepared to concede *the total repeal of the duty on bricks*. He found that the subject had also occupied the attention of that Committee of the House of Lords whose report stated that not only would such a repeal tend to the improvement of real property in towns, and their immediate vicinity, but add considerably to the comfort of the poorer classes. The announcement was received with loud cheers. The abolition of this duty cannot fail to set industry in motion and otherwise effect much good. We are proud of having assisted in ever so small a degree to bring it about.

There is but one drawback at present to our satisfaction, namely, the position of the present stock of the brickmakers with respect to drawback itself. A large and influential meeting of makers was held at the London Tavern, on Wednesday last, after which a deputation, composed of Messrs. Heron and Rutter, Mr. Lee, Mr. Bennett, Mr. Everest, Mr. Hunt, Mr. John Rutty, Mr. Rhodes, Mr. Bird, Mr. Clark, Mr. Kingsnorth, and Mr. Pocock, brick manufacturers, and Lord Robert Grosvenor, Sir Thomas Birch, and Messrs. Cardwell, Osborne, Patten, Greenall, Brockman, W. Cubitt, and Beckett, members of Parliament, waited on the Chancellor of the Exchequer, who was unwell, but had deputed Mr. Hayter, secretary to the treasury, to hear the deputation and report. After some discussion, however, three members of the deputation, Messrs. Cubitt, Holmes, and Heron, were invited to wait personally on the Chancellor, who, after a representation which continued for upwards of half-an-hour, admitted the hardship of the case, and was much disposed to meet it by "some sort of compromise." We earnestly hope that the grace of a boon so likely to lead to extensive and general good, will not be marred by any injustice or injury to individuals.

THE INVENTORS OF THE PORTSMOUTH BLOCK MACHINERY.

ON comparing the statement of "N. R." with official documents, it appears (as was from the first well known to the Lords of the Admiralty) that the several parts of the block machinery at Portsmouth were invented by different persons, and successively introduced. The friction rollers claimed by "N. R." as the invention of the Messrs. Taylor, not being employed in the Portsmouth machinery, it seems needless here to discuss that claim.

The *circular*-saw appears by "N. R.'s" statement to have been devised by one of the Messrs. Taylor; and though as fitted up by them it was only in its most simple state, yet as this tool has since been found applicable to a great variety of purposes, the invention of it is alone sufficient to place these gentlemen high in the list of benefactors to the mechanical arts.

Justice was long ago done to the Messrs. Taylor by the late Brigadier-General Sir Samuel Bentham as to their having been early in the application of machinery to the working of wood. He stated officially that in the year 1791, excepting some turning lathes, the circular and reciprocating saws, and some boring tools applied by these gentlemen in making blocks for the navy, no other machinery was then in use for the working of wood.

It was in consequence of this great deficiency of machinery for working wood, that Sir Samuel applied himself to the perfecting various engines he had invented whilst in Russia, and patented his contrivances November 26th, 1791, and 3rd April, 1793. The specifications

of these patents *class* the several *operations* requisite in working wood to any form required, straight or bevelled, and describe machines by which these several operations may be performed; amongst them perhaps all that are necessary for the production of a finished block. Circumstances irrelevant to the present subject induced him to have various of his machines made, and put to actual work at his brother's residence, among which were some of the *identical* machines afterwards forming part of the general system of block machinery at Portsmouth. The then First Lord, and other Lords of the Admiralty, visited these engines when in operation in the year 1795, and, convinced of the advantages that would result from their introduction into naval arsenals, induced Sir Samuel to re-engage in the naval service as Inspector-General of Naval Works. Amongst other articles then intended to be manufactured on Government account were blocks. By degrees many of these machines were removed from his residence to Portsmouth and Plymouth dockyards, such as his apparatus for boring, mortising, cutting of grooves and tenons, as also reciprocating saws, with his new apparatus for giving them motion in different directions, and circular saws with his improvements, including machinery that enabled them to cut at pleasure to any desired depth, or at any desired angle. The Lords of the Admiralty, during their visitation of the dockyards in 1802, inspected some of these machines when at work, as is recorded in their "Minutes of Proceedings," page 45.

It was in the same year, 1802, that Sir Isambard (then Mr.) Brunel presented himself, unknown and unrecommended, with drawings of his block machinery, to General Bentham. The drawings exhibited "at that time embraced only some of the operations requisite in forming the *shells* of blocks," but "they exhibited great ingenuity and mechanical skill." The inspector-general's time happened to be fully occupied, at the first lord's desire, in matters of general management, so that, after much inquiry respecting Mr. Brunel, Sir Samuel mentioned to Lord St. Vincent Mr. Brunel's invention, and advised that gentleman to propose his machine to the Admiralty: on receipt of the proposal the Admiralty board referred it to the inspector-general "to consider and report what in your opinion may be proper to be done thereupon."

The general, in his report, 15th April, 1802, said "he was convinced that the invention is well suited to the purpose of manufacturing blocks with a degree of accuracy, uniformity, and cheapness beyond what can be expected from the *modes hitherto in use*." Mr. Brunel's machine was in consequence adopted, and he was directed by their lordships to concert with the machinist in the inspector-general's office as to the best mode of fixing up the different engines and apparatus, so that it "should combine with the apparatus *already provided*, or which it may seem advisable to erect, in that dockyard." General Bentham was charged with the examination and approval of the several drawings of proposed machines, and with the responsibility, as well, of checking all payments for them.

From this time the inspector-general and the machinist united with Mr. Brunel in endeavours to render the whole apparatus for making blocks as perfect as possible. Several of Sir Samuel's machines already in the dockyard were employed as part of the block machinery; and, with a view to engage public opinion in favour of machinery, he gave a preference to that for block-making, as it was susceptible of a pleasing arrangement.

But it is time to particularize the several block machines, so that each inventor may receive due acknowledgment of his skill: this may best be done by reference to the several operations requisite for the formation of a finished block, and by making use of the descriptions and drawings of the Portsmouth block machinery as given in Ure's Dictionary, but in which, however, the invention of the whole of it is ascribed to Mr. Brunel. It seems almost a needless repetition to say that the simple circular saw was invented by the Messrs. Taylor.

The several operations in forming a block shell are—

1. To cut out the shell to size from the rough log.—Described article 1. of Ure—"The straight cross-cutting saw, and the circular cross-cutting saw." These saws were amongst the machinery from General Bentham's that were inspected by the Lords of the Admiralty in 1802: the first articles of Mr. Brunel's machinery did not arrive at the yard till 15th April, 1803. These reciprocating saws were fitted up with General Bentham's machinery for insuring precision in the work done by them, and the circular saws were with his contrivances for enabling them to cut at pleasure to any angle, or to any depth.

2. To bore for mortising and pin-hole.—Messrs. Taylor used boring machinery. That employed at Portsmouth appears to have been General Bentham's improved borers, by which the tool was directed as might be required, whilst the wood was held firmly in its place at the required angle or height. Mr. Brunel probably made some alterations of this engine to suit it particularly to the boring of block shells. The machine at Portsmouth differs from Mr. Taylor's in the important particular, that, at Portsmouth, the block is confined precisely in the required direction to receive the borers, besides that holes are bored in different directions at one and the same time.

3. To mortise.—This, too, is an adaptation of General Bentham's machine to the particular purpose of mortising a block shell.

4. To cut off corners.—Fig. 132, Ure's Dictionary. It is the improved circular saw of General Bentham. The improvement in this instance consisted in his invention of an apparatus by means of which the saw cut accurately, at pleasure, to any desired angle, or to any required depth. It is represented, however, by Ure, as fitted only to cut at one particular angle.

5. To shape.—This operation was performed by hand in Messrs. Taylor's factory. Mr. Brunel invented the shaping machine: it is amongst the most important of his contrivances, on account of the accuracy and uniformity given by it to block shells, over and above great savings of expense.

6. To score.—Fig. 133 of Ure. Done by hand at Messrs. Taylor's factory. The engine for performing this difficult operation was of Mr. Brunel's invention; it insures perfect accuracy in this important part of the shell.

SHIEVES.

1. To cut off slices of lignum vitæ to the required thickness.—A combination of the saws above mentioned arranged for this purpose by Mr. Brunel.

2. To bore and round.—Performed at Portsmouth by means of an ingenious machine of Mr. Brunel's invention. Fig. 134 of Ure exhibits the *crown* saw, and the other apparatus as contrived by Mr. Brunel.

3. To prepare for coque.—Done by hand at Messrs. Taylor's; at Portsmouth by a machine of Mr. Brunel's invention. By this engine three semicircular indents are excavated round the hole at the centre of the shieve; by the accuracy thus given to the bed for the coque it exactly fills up the indent, so as to prevent its former looseness in the shieve.

4. To drill for rivets.—Brunel.

5. To rivet.—This little tilt hammer affords an instance of the combination of endeavours to perfect the whole apparatus. Riveting was at first done by hand at Portsmouth, but when the inspector-general was one day examining the works, it was observed that the strokes of the hammer as given by the boy were irregular, and a tilt hammer was suggested in lieu of the hand. Mr. Brunel immediately adopted the idea, and introduced the tilt hammer with a suitable band for working it.

6. To broach according to size of pin.—Brunel.

7. To turn and polish.—The ordinary lathes of block-makers.

PINS.

They were for some years obtained from Sheffield at less cost than they could be manufactured for in the dockyard. Subsequently the inspector-general caused a blacksmith's shop to be fitted up for convicts' use in the floating-dam of the basin, from which time the pins were forged by convicts, and afterwards turned and polished by machines of Mr. Brunel's.

FINISHING THE BLOCK.

Putting the shieve and the pin into the block shell.—By hand: this being the only operation for which suitable machinery is not provided at Portsmouth.

Mr. Brunel, by attention to the parts that had failed, of condemned blocks, perceived where additional strength was required, and provided for giving it; thus the ends of the shells, where they had so frequently split, he made thicker than theretofore; the iron pins he coated with tin, to prevent rust; the coques were of a mixed metal, greatly improved in quality after much investigation by the inspector-general, Mr. Brunel, and Mr. Maudsley. These and many other improvements tended to the greater durability of blocks. Indeed, after the time when the Portsmouth-made ones had come into general use, it was found that the consumption of them had greatly diminished in proportion to the number of vessels in commission. This was, in part, consequent on the improvement of the blocks themselves, but still more, it was confidently affirmed, on the uniformity and accuracy with which the blocks were made by the Portsmouth machinery,—inimitable but by other such machinery—so that the form and finish of these blocks proved far better security against embezzlement than the king's mark had ever been.

The machinery necessary for giving motion to Mr. Brunel's apparatus was devised in the inspector-general's office, Mr. Brunel "having had a considerable share in its contrivance."

As to pumps, and many other articles included in the block-makers' contract, they were manufactured from the year 1805 in Portsmouth-yard by means of the sawmills, lathes, and other engines erected there according to the inspector-general's plans.

"N. R." attributes the discontinuance of Mr. Taylor's contract to the cessation of his patent. It expired, however, in the year 1790, consequently ten or eleven years before there was question of Mr. Brunel. In point of fact, Mr. Taylor's contract continued till the year 1805.

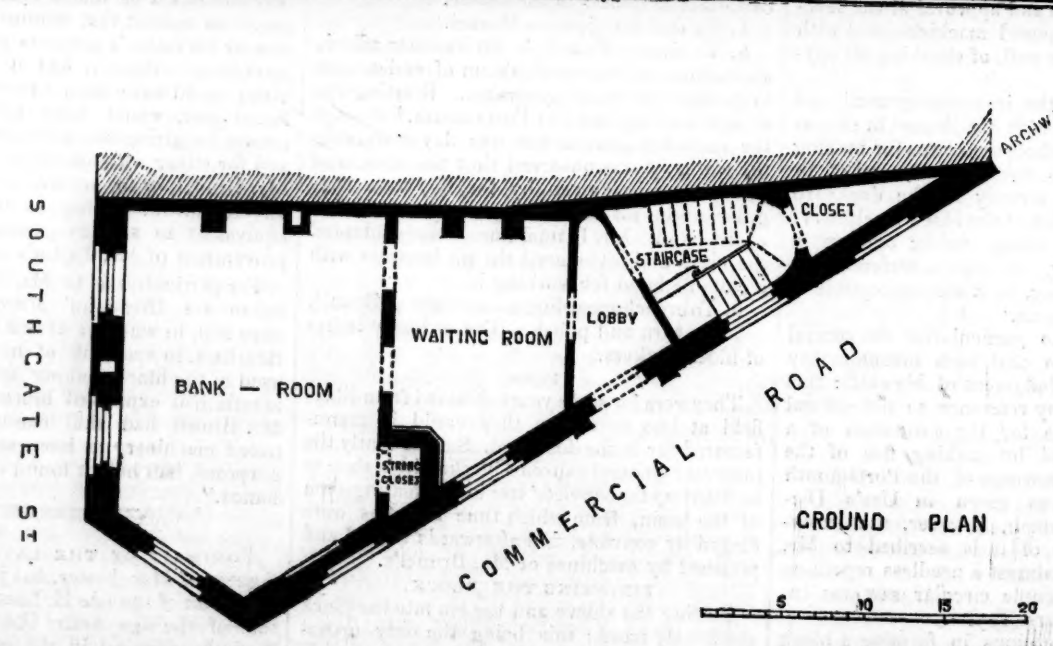
"N. R." further states, that Mr. Taylor's claim to the invention of the Portsmouth machinery was insisted on during Sir Isambard Brunel's lifetime, and never denied. In looking over all the official correspondence on the subject, and numerous private papers, it does appear that Mr. Taylor had represented that "no saving could result" from the Portsmouth block machinery; a saving, however, did result from it, of above 16,000*l.* a-year: "that it never would be found competent to the supply of the navy;" but during the heat of the war it did not only supply the navy, but also all the demands of the Ordnance department: that the hopes of the sufficiency of that machinery were "the sanguine but groundless expectations of a visionary projector;" yet amongst these and similar representations no hint even is to be found that either Mr. Walter Taylor or his father had been the *inventors* of the Portsmouth block machinery. Mr. Taylor was well known to be adverse to it; yet from the year 1803, when it was officially announced that Mr. Brunel's remuneration was to be a-year's savings made by his machinery, to the year 1810, when the amount of these savings was calculated and awarded, not on any one occasion can it be found that Mr. Taylor ever urged, as against that remuneration, either his own or his father's previous invention of that machinery,—though, had it been so, such a claim would have been examined into, and if found just, would have afforded legitimate reason for giving remuneration to Mr. Taylor, and for either withholding it altogether from Mr. Brunel, or for according to him only such an amount of money as might have been equivalent to savings produced by his improvements of Mr. Taylor's machinery.

For particulars as to Mr. Brunel's remuneration see *Mechanics' Magazine*, No. 1376, page 592, in which it appears that Sir Samuel Bentham, in speaking of his own machinery used in the block-making apparatus at Portsmouth, had expressed himself "satisfied that Mr. Brunel had skill enough to have contrived machinery to have answered the same purposes, had he not found mine ready to his hands."

PORTRAIT OF THE LATE MR. ELMES.—Agnew, of Manchester, has just now published a portrait of the late H. Lonsdale Elmes, architect of the new Assize Courts, Liverpool. It is nicely engraved in the mixed style, by Mr. T. O. Barlow, from a painting in the possession of Mr. Rawlinson.

GLOUCESTER SAVINGS BANK.

MESSRS. HAMILTON AND MEDLAND, ARCHITECTS.



HEREFORD AND GLOUCESTER.

GLOUCESTER SAVINGS BANK.

HEREFORD Cathedral, which has been closed for a long period of time for restoration under the guidance of the late Mr. Cottingham, was opened in part a few days ago for Divine service. We passed through the city last week, and looked into the building. The nave is completed, and here the temporary arrangements have been made for service,—a screen having been erected at the junction with the transept. The lower part of the nave, as some of our readers will remember, is Norman (the work of Bishop Robert of Lorrain, commenced 1097, and finished 1115), and the upper part is Early English. The whole of the stonework here has been made perfect,—much of it being entirely new. The nave is paved with black and red tiles in patterns; and the vaulting, which is of plaster, some of the miserable work of Wyatt, has been decorated with colour, in a manner not commensurate with the greatness of the work in hand. This decoration consists of brown scroll-work with medallions somewhat coarsely executed. The vaulting of the aisles is also painted, and with better effect. The ceiling under the tower, at the *crux*, not included in the part opened, is decorated in blue and gold.

The transepts and choir are in a miserably ruinous state, and give some notion of the extent of the work which must have been done in the nave. The exquisitely beautiful Lady-chapel and parts about it have been thoroughly restored externally: the new gable crosses here are over large.

At *Gloucester* a new savings bank has been completed, and we give a view of it, not because it possesses any remarkable feature, but as serving to show our readers what is going on in the provinces. It was commenced May 1, 1849, from the designs of Messrs. Hamilton and Medland. The total outlay, about 1,350*l.*, has been defrayed out of the separate surplus fund accumulated by the local trustees and officers, and previously invested with the Commissioners for the reduction of the National Debt.

The building stands at the commencement of the Commercial-road, which has been opened at a great expense by the enterprise of several gentlemen to afford a better communication with the docks, and occupies a commanding position in the city. The material is stone. The difficulties of the site (which is in form a scalene triangle) has been ingeniously overcome, and accommodation provided for the requirements of the bank and the residence of the actuary.

The builder is Mr. W. Wingate, of Gloucester.

The new walls of St. Michael's church, Gloucester, in progress of rebuilding, are now beginning to show above the hoard.

Plans were invited in competition, a short time since, for the Gloucester and Bristol Diocesan Training Institution for Mistresses. Eleven sets were sent in, by eight architects, and from these the committee have just now selected a design by Messrs. Clarke and Norton. It consists of a training college for the education of 75 mistresses, attached to which is a matron's residence, and connected by means of an open corridor is a chapel to accommodate 150 persons: two quadrangles occupy the centre of the site, and by means of covered ambulatories, lead to a group of three large practising schools, altogether accommodating 360 children—girls, infants and children of yeomen. The style adopted is, as we are told, that of the 14th century.

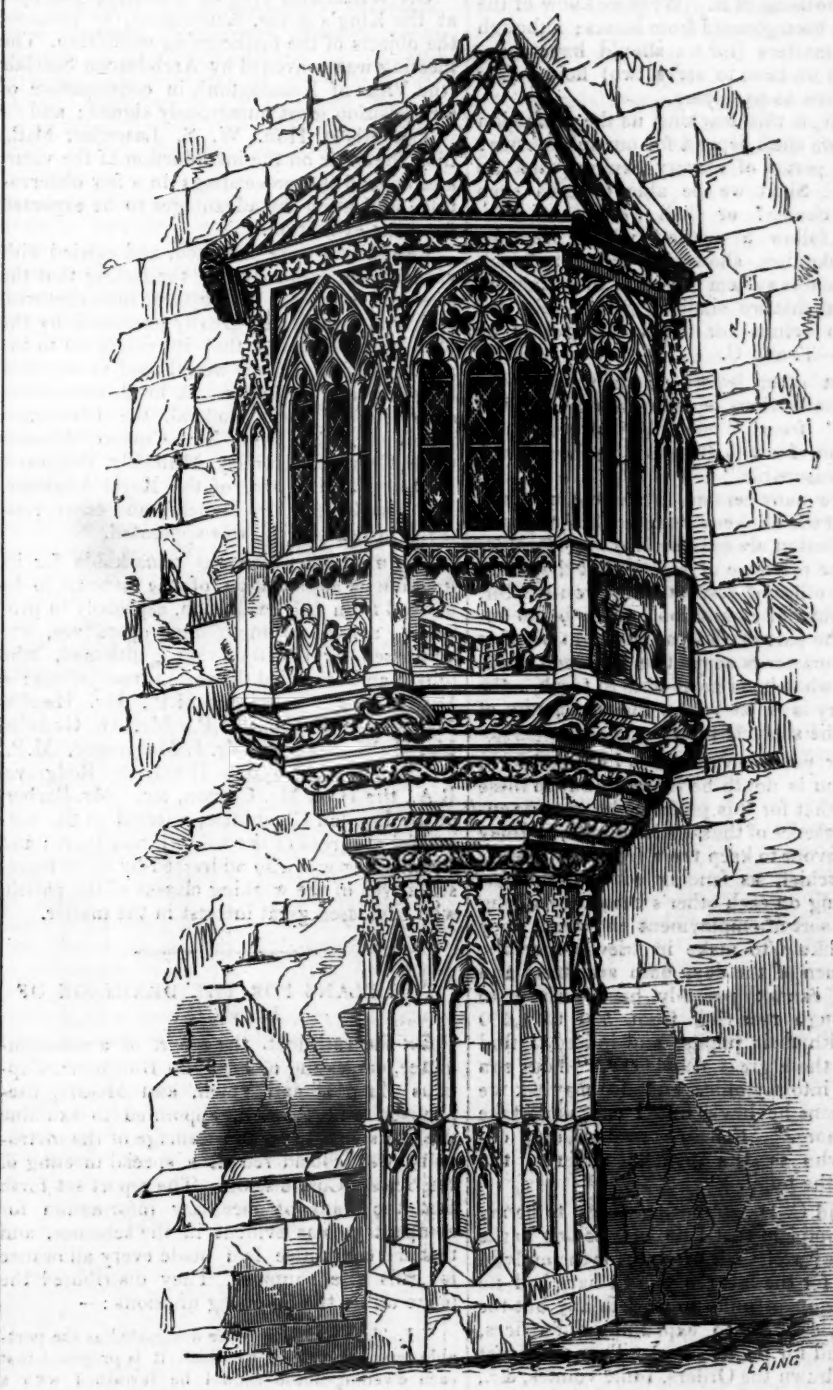
At Hucclecote, on the road from Gloucester to Cirencester, the first stone of a new Early English church was laid a few days ago: the architects are Messrs. Jacques and Son, and the builder Mr. Charles Niblett, all of Gloucester.

CARVED OAK FITTINGS, CONSUMPTION HOSPITAL.—Annexed are some carvers' estimates for the oak fittings for the chapel of the Consumption Hospital at Brompton; Mr. E. B. Lamb, architect:—

Philip and Co.	£606
Carving Company	582
Thomas Burton	446
James Rattee	400
Samuel Pratt	386

ORIEL WINDOW, NUREMBERG.

[CIRCA 14TH CENTURY.]



ORIEL WINDOW, NUREMBERG.

THIS rich oriel forms part of the clergyman's house belonging to the church of St. Sebald; the date of its erection cannot be precisely stated, but it probably belongs to the latter part of the fourteenth century, as the character of the detail is very similar to that of the Schönebrunnen in the market-place, erected about 1360. The sculpture in the spaces under the window lights represents some of the remarkable events in the life of our Saviour. The introduction of sculpture is, perhaps, rather characteristic of this town, which contains so many fine examples of the sculpture of the middle ages. The tiled roof is probably not original,—it was, very likely, covered with copper, which was frequently used in such a case,—as in the beautiful example of the "goldene dach" (golden roof) at Innspruck. C. F.

LICENSED VICTUALLERS' ASYLUM.—A new chapel is to be added to the centre of the present building; also a board-room, 35 ft. by 25 ft., court-house, and four additional houses,—the whole to cost about 3,300*l.* Mr. Rose is honorary architect.

THE IRON TRADE.—Prices have still a downward tendency, and the hopes of the masters are still as far from realization as ever.

ARTICLED CLERKS AND THEIR MASTERS.

WE continue to receive letters from architects' pupils complaining of want of opportunity to acquire their profession. Following up the first lament, another couple thus write:—We read with great interest the "Lament of Two Articled Clerks," which appeared in your columns, and, from its close resemblance to our own case, we fully sympathize with our professional brethren, and rejoice that they have so successfully exposed the treatment to which we, as a body, are subjected. We were glad to find that we had a valuable friend in you, and have no doubt that, should the subject be brought into notice through the medium of your journal, the evil will, in a great measure, be removed. What we particularly complain of is, that no opportunity is afforded us of seeing the plans and specifications prepared in the office carried out,—that seems to be considered quite unnecessary by our masters, if, indeed, they have ever given it a moment's consideration, for all interest in us apparently ceased on the day on which our articles were signed and premiums paid, for this appears to be the main object with many architects.

In the case of a building of a public character now just completed, on a new principle, we only visited it twice, once during the progress of the works, and once after roofing in.

If "ignorance is bliss," we are in a blissful state, indeed, for, with respect to the practice of surveying and measuring artificers' work, we know nothing of it. What we know of the theory has been gleaned from books; although both our masters (for we should have mentioned that we have to serve two) hold public appointments as surveyors.

Now, Sir, is this teaching us the profession on which we shall depend for our subsistence? When our period of slavery expires, what are we to do? Shall we be able to earn even bread and cheese? or shall we not be compelled to follow a method which, from its constant adoption, shows the extent to which this abominable system is carried, and advertise to the effect that we shall be glad to offer our services in return for the advantages to be received?—T. and C.

Amongst other letters on the subject, we have a semi-serious epistle in reply to the "Lament" from "one plagued with two pupils, who, if not A B and C D themselves, are as unreasonable."

There are many persons (he writes), who, not caring what the Dickens Pecksniff is thought of by the profession, are only anxious to get for their children the privilege of saying that they have been in an office of respectability (you see, Sir, I say nothing of reputation), there is no inquiry on the part of the parents as to whether the future master is competent to teach at all, and if so, what he is most able to teach,—the only inquiry is what is the lowest amount of fee? and the shortest term?

Now, Sir, you know as well as I do, that even a small sum is not to be thrown away in these times, and that for this professional men do endure the presence of the so called pupils; and may even endeavour to keep them from committing actual mischief, as fencing with tee-squares, and standing on each other's heads, by giving them that sort of employment in which they are least likely to make irretrievable errors. The first men of the day, both architects and engineers, cannot possibly have leisure to teach, though receiving from 500 to 1,000 guineas with their pupils, and indeed I find that now these great people say, "Your son may come into my office, and also may ask me any questions he likes, but I can undertake nothing more." Sensible readers may determine who is the greatest sufferer, the master or the pupil.

A. B. and C. D., supposing them to be my plagues, complain that I do not belong to the classic style; well, their parents, for themselves, know that for the last ten years I have had no occasion or opportunity to work in any but the Gothic styles. As to explaining differences, do they read for themselves? They allow that they *have* drawn the Orders, Ionic volutes, &c., and in that &c. is comprised all that has ever been *taught* in some of the most *classic* London offices since the year 1800. They say that they have now and then a specification or bill of quantities to write out; well, Sir, in my time of apprenticeship such things were very rarely allowed to go into the office, and even now, I believe, the rule is pretty strictly observed, especially by the engineers. As you will observe, they do not pretend that they have ever sought for information from me, or from any course of private study out of the office. Why, Sir, fourteen hours a-day sometimes, twelve I may say always, did I work for my elementary education. Let them try the same course; and being able to show that they are doing their part, their parents or guardians may justly call on their master to do his.—Y. Z.

EXHIBITION OF WORKS OF MEDIÆVAL ART.—The exhibition of works of mediæval art, now open to the public, at the Society of Arts, in the Adelphi, should not be hastily glanced at, but *examined* thoroughly, when it will be found not "a mere goldsmith's shop," as we heard a respectable country gentleman term it, but a collection of gems of art, presenting to the modern executant an evidence of how much he has yet to do,—to the amateur the means of correcting his judgment,—and to the archæologist materials for study. Such an assemblage of rare things of the kind has never before been seen. A very full catalogue has been prepared, but the mode of numbering the objects gives much trouble to the visitor.

MEETING AT KENSINGTON FOR THE EXHIBITION OF 1851.

ON Wednesday evening a meeting was held at the King's Arms, Kensington, to promote the objects of the forthcoming exhibition. The meeting was convened by Archdeacon Sinclair (the Vicar of Kensington), in consequence of a requisition most numerously signed; and

The Right Hon. W. S. Lascelles, M.P., took the chair on the introduction of the vicar, and opened the proceedings in a few observations indicating the advantages to be expected from the exhibition.

Resolutions were proposed, and carried with enthusiasm, expressive of the feeling that the arts and sciences, agriculture, manufactures, and trade, would be greatly promoted by the plan proposed; and that its extension to the products of all nations would tend to maintain the blessings of peace. A local committee, consisting of Lord Holland, the Chairman, the Vicar, the Hon. Mr. Curzon, Messrs. Cope, Creswick, Horsley, Mulready, Redgrave, Webster, and Wyon, of the Royal Academy, Mr. Thackeray, Mr. Planché, and other residents in the locality, was appointed.

The meeting, which was remarkable for its unanimous appreciation of the benefits to be derived from the exhibition, especially in promoting art-education amongst operatives, was addressed by the following gentlemen, who moved and seconded the various resolutions:—Lord Robert Grosvenor, M.P., Mr. Hawks, Mr. Milner Gibson, M.P., Mr. G. Godwin, Mr. H. W. Vincent, Mr. J. Macgregor, M.P., Dr. Waddilove, Captain Hood, Mr. Redgrave, R.A., the Hon. Mr. Curzon, &c. Mr. Barber, of the London Committee, referred to the successful progress of the subscription there; and the meeting was also addressed by some representatives of the working classes of the parish, who expressed great interest in the matter.

THE PLANS FOR THE DRAINAGE OF LONDON.

ON the 15th inst. the report of a sub-committee, consisting of Sir John Burgoyne, Captains Harness and Vetch, and Messrs. Stephenson and Rendell, appointed to examine the plans sent in for the drainage of the metropolis, was considered at a special meeting of the Sewers Commission. The report set forth that the want of necessary information for competitors was evident in the schemes, and that the committee had made every allowance for this disadvantage. They distributed the plans under the following divisions:—

"1. That which may be designated as the portable cesspool system, by which it is proposed that each dwelling-house should be furnished with a portable iron or other vessel, or receptacle, for fecal matter, which is to be periodically removed to depôts situate in the suburbs of the metropolis, whence it is to be distributed in the form of manure for the purposes of agriculture. It is an essential condition of this class of schemes, that as little water as possible should be allowed to mingle with the solid sewage matter, in order that its fertilizing power should not be diminished, and that its augmented bulk should not oppose obstacles to its convenient removal and transport.

2. The schemes included under this division contemplate the discharge of the whole drainage of London into the Thames, and the maintenance of the present system of outlets, though under improved conditions. The projectors contend that the river is the natural and only legitimate outlet for the sewage of the metropolis, and place reliance upon the effect of an increased supply of water, so abundant as to ensure an almost unintermittent current in the sewers, by which it is assumed that the sewage matter will be extensively diluted, and its effect upon the vast body of tidal water rendered scarcely perceptible. It is also a distinguishing feature of the schemes that the outfalls of the sewers are intended to be carried out to or beyond low water mark, and generally into the river.

3. The authors of the projects included in the third division propose to lay down tunnels or culverts of iron, bricks, or other material, in and along the mud banks of the Thames, and occasionally in or under its bed, for the purpose of intercepting and receiving, at the various outlets of the existing sewers, the drainage of the districts on each side of the river. These culverts or tunnels are generally continued to the marsh grounds, in the county of Essex, beyond the River Lea, on the north side of the Thames, and to Plumstead marshes on the south, at which points reservoirs and filtering-beds are to be found for preparing and rendering portable the sewage matter for manure.

4. The fourth division differs from the preceding one in this particular, that, instead of having a single intercepted sewer at the lowest level, it proposes several of such sewers at progressive ranges of altitude, determined by the various drainage areas, with the view of preventing the refuse of the higher portions from descending to and encumbering the flat districts below. In the great majority of these projects these lines of intercepting sewers are conducted to points in the marshes, in the east of London, at a lower level than low water, in consequence of which it becomes necessary to employ steam-power to pump up the refuse.

5. The fifth division involves the establishment of cesspools at the outlets of the principal sewers along the banks of the Thames, it being the intention of the framers of this class of plans to unite several of these outlets into one, according to the conditions and requirements of particular localities, and at these points of union or concentration to erect pumping apparatus of great power for conveying the sewage matter into the rural districts, either through iron pipes, or by means of carts, barges, or other modes of transport.

6. This class has for its object the division of the metropolis into separate drainage areas, in the centres of which it is proposed to form sumpts or pits for the reception of the sewage matter, from which it is intended to be pumped and distributed by various methods, for the most part similar in character to those adopted in the case of the schemes described under the last division.

7. This division includes a numerous class of projects, which, with scarcely an exception, instead of being directed to the object of making provision for an improved system of general sewerage, are almost exclusively confined to the consideration of processes and expedients for inflating, deodorising, and soldifying the sewage matter for the purposes of the farmer and market gardener.

In addition to schemes involving definite characteristics and susceptible of some species of classification, numerous communications have come under our notice, which may for the most part be described as vague, speculative, disquisitions, or collateral and subordinate branches of the general subject of drainage, few of which can be said to possess any practical value. It is observable that the great majority of these schemes adopt as an essential principle the diversion from the Thames of the great mass of London sewage matter now discharged into it, an object which it appears to us most desirable to accomplish to the greatest practicable extent. We also assent to the views of those who are opposed to the separation of surface and house-drainage. We think it objectionable generally to bring down the drainage of the high grounds to the lower districts, and we agree in the opinion that it is of permanent importance to make every effort for accomplishing the drainage of London by natural means, that machinery should not be employed generally or on a large scale, and that it should only be resorted to in the last instance, and under special circumstances, as in the case of detached and insulated districts, limited in extent, and so situated as to render it a matter of undue difficulty to unite them with others."

They proceed to say that,—

"The best conceived and most practical scheme submitted to the commissioners is, in our opinion, that of Mr. J. B. M'Lean; and, though we do not deem ourselves justified in recommending any one of these schemes for adoption, as a whole, we yet think that Mr. M'Lean's plan contains many of the main elements of a sound and judicious system of drainage. It is characterised by a well-devised system of intercepting sewers, in determining the situation and course of which a careful and elaborate study of the levels has evidently been made. These intercepting sewers generally follow the direction of the main thoroughfares, and avoid any extensive interference with private property.

The chief of them on the north side of the Thames commences near Battle-bridge, and, after running a course of nearly eight miles, terminates at the river Thames, at some distance below the river Lea.

There is, however, one portion of the metropolis, namely, the long, narrow tract lying on the north margin of the Thames, between Charing-cross and Shadwell, for which sufficient provision does not seem to be made. It is not made apparent whether it is proposed to resort to pumping for the drainage of this part of London; but, with regard to a large proportion of the tract in question, no other expedient would seem to be applicable. The lower districts of Westminster are treated in a somewhat peculiar manner, namely, by carrying an iron syphon across and underneath the Thames, above Vauxhall-bridge.

This portion of the scheme involves great difficulties, and we consider it decidedly objectionable; but it must be borne in mind that it proposes to deal with the drainage of Westminster (confessedly a difficult subject) without the aid of a pumping

apparatus or a deep tunnel, or of a discharge into the Thames as at present."

They mark out four other plans as possessing an amount of merit in individual portions of it justifying a special notice of them; namely, the plans of Messrs. Nasmyth and Statham, Mr. J. Bayley Denton, Mr. J. Phillips, and Mr. H. Austin.

To all these they advance objections, and then say—

"Several other schemes evince merit in some portion of their details, and furnish useful hints on incidental branches of the subject. The schemes we allude to are those of

Mr. Allen,
Mr. Bardwell,
Mr. Dorell,
Mr. Dunn,
Mr. Gibbs,
Mr. Moffatt,
Captain Moorsom,
Mr. Netherway, and
Mr. H. Phillips."

The estimates sent in with the various plans they consider, "with scarcely an exception, totally inadequate."

The report having been received and adopted, it was resolved, on the motion of Sir Henry De la Beche, seconded by Mr. Sheriff Lawrence (on the part of the city) from whom the suggestion emanated,—

"That it be referred to a committee of the whole body of commissioners, to adopt such measures as may be considered expedient for the drainage of the different portions of the metropolis."

NEW SCENERY AND PANORAMIC VIEWS.

Her Majesty's Theatre.—The ball scene in the new ballet, *Les Metamorphoses*, displays some of Mr. Marshall's clever Hispanio-Moorish architecture as a foreground, with a brilliant festal illumination, and a chateau rising prominently from its terraces in the background. It is painted with the skill and knowledge of effect which he has given evidence of in greater works. The ballot itself is very pleasing.

The Royal Italian Opera House.—The Wolf's Glen, by moonlight, the scene of the incantation in the opera of *Der Freischutz*, now being played at the Royal Italian Opera House, Covent Garden, is a grand painting, as well worth paying for, to see, as any panorama now exhibiting. It represents a deep ravine, bridges stretching from side to side connecting the mountains, and over the whole is at first shed a moonlight perfect in tone. The opera is performed in a most excellent manner; the overture was, perhaps, never so played before.

At the Lyceum Theatre the amazing success of the "Island of Jewels" (the excellence of which we mentioned when first produced) admits of nothing new for us to note.

The Diorama, Regent's-park.—The new view here is of the well-known Castle of Stolzenfels, on the Rhine, situated about an hour's drive from Coblentz, and it is shown under various striking effects of light. It is painted by Nicholas Meister, of Cologne, and well deserves a visit. A violent rain storm, such as often comes on suddenly in that romantic locality, is represented so as to give an impression of reality almost disagreeable,—especially if you have no umbrella with you.

Her Majesty's Visit to Ireland.—At the Chinese Gallery, Hyde-park-corner, there is an interesting moving diorama, representing some of the places visited and scenery passed through by the Queen; painted from sketches made on the spot by Mr. Philip Phillips. It is generally exceedingly well painted, but would be greatly improved by more *light*. We would suggest to the artist to see what Mr. Leslie has done in the way of lighting, at the Exhibition of the Britannia-bridge, in Regent-street.

Tavern Decorations.—A billiard-room at Gurton's in Old Bond-street, has been decorated with a series of subjects, in encaustic, by Mr. E. F. Lambert, having reference to the business of the house,—such as "Bacchus and Ariadne," "Hebe," "Jupiter's Cupbearer," "The Suttler's Booth," &c., not without merit.

FIRE AT WESTMINSTER.—The saw-mills, joiners'-shops, and other premises of Messrs. J. and C. Rigby, of Holywell-street, together with a number of adjoining tenements, were destroyed by fire on Saturday last.

Books.

Railway Economy: a Treatise on the New Art of Transport, its Management, Prospects, and Relations, Commercial, Financial, and Social. With an exposition of the practical results of the Railways in operation in the United Kingdom, on the Continent, and in America. By DIONYSIUS LARDNER, D.C.L., &c. Taylor, Walton, and Maberly, Paternoster-row.

DR. LARDNER sustains his literary reputation by this new production, which appears to be the most comprehensive and diligent compilation yet made of all that relates to railway economy, although even in this a little research enables us to observe the incidental omission of a fact of some importance. The work, however, certainly forms a great compendium of interesting and important matter, written in a style excellently well adapted to miscellaneous public perusal, and ought to be in the possession of every shareholder, and of all, indeed, in any way interested in railways. It also embodies a good deal of information on roads and transport in general, both ancient and modern. The typographical aspect of the work is unobjectionable, the whole being clear and readable, and the paper good. A very full and useful table of contents, and a separate index, accompany the work.

Hints to all about to rent, buy, or build House Property. By FRANCIS CROSS, Architect. Nelson, Paternoster-row.

THE object of this little work is sufficiently indicated in its title. That it is full of useful hints and valuable information may well be allowed, since we find it, for the most part, an embodiment of matters scattered through the leaves of THE BUILDER,—some little general acknowledgment of which might, we think, have been made in some quiet corner of the contents. Good use, however, has been made of the materiel, and some discrimination displayed in setting it off into an instructive little exposure to the public mind of all the hints and recommendations necessary to render him who reads them very knowing, indeed, in all that relates to house property,—enabling him, in reality, to see much further through a brick wall than he can have ever done before.

Miscellanea.

THE ART-UNION OF LONDON.—Crowds have been rushing into the office in the Strand during the last two or three days to obtain the engraving of "Sabrina," the delivery of which began on Monday last.——Maclise's fine illustrations of "The Seven Ages" are all engraved, and in progress of printing.——A medal in honour of Bankes, the sculptor, has been determined on.——The council have selected a fine antique tazza from the British Museum to be produced in cast-iron.——The bas-relief of Christ entering Jerusalem has been very successfully engraved by the ruling process (or anaglyptograph), and is ready for press.——Some time ago Prince Albert directed the council to have prepared for him a set of the bronzes and statuettes which have been issued by the Art-Union. This has been done, and last week one of the officers of the society accompanied them to Buckingham Palace, when his Royal Highness was pleased personally to express great satisfaction.

TEBAY'S PLANNING RULE.—Mr. Tebay's scales, sold under this title, have the great advantage over those generally in use, that the number of scales required are all contained on one simple strip of wood, arranged so that each scale of divisions reads *to the edge of the rule*, so that the required distances may be "set off" with a pencil, and the use of the compasses dispensed with. All the scales are arranged according to equal subdivision, thus: 8 on the $\frac{1}{8}$th scale is equal to 4 on the $\frac{1}{4}$th, 2 on the $\frac{1}{2}$, and 1 on the 1-in. scales. The 10ths and 12ths, subdivisions, are at opposite ends of the rule, so that all the scales of each class may be read off the edge, from the smallest scale to the largest, by merely reversing the rule sideways, which is easily done in the left hand, being that in which the rule is held when used. They must be cheapened, and will then doubtless come into use.

PEEL TESTIMONIAL.—As no parties have applied to me for any information, perhaps you would afford me the opportunity through your columns to state, with reference to a recent paragraph in your journal, that all the sums forwarded here (50*l.* odd), and which were regularly acknowledged in the *Morning Advertiser*, are forthcoming at a moment's notice. I have stated this fact, in print, over and over again. Further, I have invited anonymous inquirers to favour me with a call any evening about nine o'clock; and when there were names and addresses, I wrote to the parties soliciting interviews. Not one person accepted the invitation. Having been connected with the *Morning Advertiser* some third of a century, and having now been its editor for several years, I apprehend that nobody has any very serious anxiety about the safety of the money. It is too late to regret that I consented to receive such sums as might be sent to this office; but, as I have also often intimated, I shall be most grateful to the subscribers, or any of them, if they can devise some plan to terminate the affair satisfactorily, and close the responsibility of yours, &c.—JOHN SCOTT.—*Morning Advertiser* Office, 14th March, 1850.

SURVEY OF EDINBURGH ON THE ORDNANCE SCALE.—Messrs. W. and A. K. Johnston, of Edinburgh, have been engaged for several years on a survey of that city, on the scale of 5 feet to 1 statute mile, and have just now completed it, and issued the first engraved sheet of the map. It will occupy in the whole 60 sheets of double elephant paper. The sheet completed relates to the centre of the city, and gives not merely every public building, but every house and outbuilding with the greatest clearness. It is surveyed and drawn by Mr. Andrew Lancefield; the outline by Mr. Alex. Adie, Mr. W. Jardine, and Mr. P. Johnston, under the direction of Mr. James Jardine. It is well engraved by Messrs. Johnston. Some arrangement should be made between the publishers and the Ordnance Board, who are about to commence the survey of Edinburgh, as otherwise time and money must be wasted.

LIVERPOOL ARCHITECTURAL SOCIETY.—At a meeting held on the 6th inst., Mr. E. H. Strype read a paper on "The Analogies and Sympathies of the Fine Arts." In the course of it he made some remarks on the word "suggestiveness" in art. A white post, he said, on a lonely road on a dark night would call up widely different associations to the different travellers. To the nervous and timid it was a footpad disguised to rifle him; to the romantic, a houseless woman in distress; to the superstitious, with its vanishing and recurring, it was, peradventure, a spirit from another world; to the choleric and fearless it was something, he cared not what, and he forthwith ran his head against it; whilst to the peasant accustomed to the road it was simply what it was—a post. The suggestiveness was not in the post, but in the darkness, the time, the situation, the want of knowledge, and the mind of the observer. It was precisely so with many works of art. He contended, that to create, in the proper sense of the word, was not in the power of man; all that he could do was to discover, to unfold, and to combine.

EXHIBITION OF ART AT BOLTON.—By the exertions of Mr. Rothwell, the local secretary to the London Art-Union, an exhibition of the Art-Union prize pictures and bronzes, proposed by him to be made there for the benefit of the public baths and the dispensary, has been converted into a very successful general exhibition for these charitable purposes, by help of liberal picture-loans from gentlemen in the town and its vicinity. Nearly 600 valuable works of art have been exhibited, in the outset at 1s. a-head, afterwards at 6d., and ultimately at 3d., to enable the working classes of Bolton to enjoy a treat. The rooms are still nightly crowded, and yielding a clear profit of 30*l.* a-week, besides donations to the amount of several hundred pounds, so that both of the institutions aided will be greatly benefited, and the advancement of the arts much promoted.

IMPROVEMENT IN STEEL MANUFACTURE.—Mr. J. M. Heath, of Hanwell, has taken out a patent for subjecting iron, in a granular state, to a welding heat, when combined with manganese and carbon.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 10th April, for the erection of a chapel and other works at the Licensed Victuallers' Asylum, Old Kent-road; by a date not specified, for the erection of six carcasses and the completion of four other houses near Holloway,—also for the erection of two houses and shops in Hackney-road; by 26th inst., for constructing 525 feet of brick sewer and other works in Piccadilly; by 23rd inst., for enlarging, reseating, and restoring Little Harrowden Church, Northamptonshire, and erecting new schools there; by 26th, for the erection of a goods warehouse at Bradford for the Midland Railway Company; by 26th, for a supply of blue whinstone for the Renfrewshire turnpike roads; by 10th April, for two cast-iron purifiers with valves, sieves, and connections complete, to be erected at the works of the Bristol and Clifton Gas-light Company; by 28th inst., for forming, making, culverting, &c., 1,500 yards of new streets at Wolverhampton; by 9th April, for a supply of turn-tables for the Great Northern Railway; by 28th inst., for the supply of 400 12-inch socket pipes, &c., for the Coventry Gas Company; and by 9th May, for the erection of works on portions of the Great Northern Railway, near Newark and Retford.

RAILWAY JOTTINGS.—The London and North-Western have subscribed 500*l.* to the International Exhibition. As with the Architects' Institute, a question has been raised as to the power of the Company legally to do so.——At the late half-yearly meeting of the Chester and Holyhead, the chairman, Captain Moorsom, said he hardly knew whether to congratulate or to condole with the shareholders on the occasion. The Menai Straits may have been passed, the Government and the public may have been saved some 60,000*l.* a-year in the packet service, and the passage to Dublin from London shortened by four hours; but the Company itself had gained nothing, and worse than nothing, for they had not even the credit of having performed a great public service. They had been put to an expense of 200,000*l.* towards the harbour of refuge at Holyhead, by the threat that, unless they did, it would be undertaken by Government. Certain negotiations, however, were pending, and he must be silent. After a somewhat noisy discussion, a resolution was passed agreeing to a Bill now before Parliament for powers to lease the line to the London and North-Western.——The Bill proposed by Mr. Ricardo to establish regulations for traffic provides, that companies be required to stop passenger trains, and to provide them at junctions, under a penalty of 50*l.* Companies to be bound to attach at junctions carriages of other companies, containing a certain number of passengers; and trains arriving after time to be forwarded at the expense of the company causing such irregularity. Proper accommodation to be provided for goods and passengers at junctions. When two places are connected by two or more railways, passengers to be booked by the shortest route, under a penalty of 10*l.* Goods waggons to be forwarded, if required, and minerals also within twelve hours after notice.

THE ARCHITECTURAL EXHIBITION will be held during the months of August and September, as stated in our advertising columns.

ELECTRO-TELEGRAPHIC PROGRESS.—A new discovery has been made by Mr. W. S. Thomas, of Norwich, New York, called the electro-thermic telegraph. Letters patent were granted to Mr. Thomas on February 12, 1850. This instrument is said to possess all the advantages of Morse and Bain's, and to be in some respects far superior. Mr. Thomas, it is said, does not use the magnet, or decompose a salt, but works on an entirely new principle, never before applied to telegraphing, and placed beyond all litigation. The principle is caloric, generated and controlled by the galvanic battery, and the operator, it is asserted, is enabled to transact twice the amount of business in the same time as with any telegraph now in use.——The Austrian Government, it appears, has opened to public use the electric telegraph between Vienna and Oldersburg: the way is thus now open from Vienna to Berlin.—— The French National Assembly Committee have approved the principle of the Bill for opening the French lines of electric telegraph.

CURE OF SMOKY CHIMNEYS.—I beg leave to say my experience is corroborative of the efficacy of the system of contraction at the bottom of the flue, and the reverse at the top: I have tried it in many cases for the last dozen years, and it has invariably succeeded. The last cure I effected on this principle was a drawing-room chimney of a detached cottage, where the draught down the chimney was so strong as to drive the flame as well as smoke into the room. The plan I adopted was to cut into the back of the chimney immediately above the fireplace, and insert two chimney-pots,—a small and a large one,—applying the small end of the least downwards nearest the fire, and the larger one the same manner on that, which carried it to where the flue was of its regular size. It may be asked why the small aperture in the register did not have the desired effect? I answer that the chamber formed by the gathering of the flue immediately above the register is a receptacle for the smoke, which is driven into the room by the least wind, or a partial vacuum may be created, into which the cold air rushes from the top to restore the natural equilibrium. And I would beg leave to suggest, with all due respect to our architects, to set out the wyths of the flues 9 inches instead of 4½ inches, so that when they start the shaft, the flue being 9 inches by 9 inches, might batten on the inside gradually to 12 inches by 12 inches when finished. A desire to abolish those architectural marplots, those vile zinc monstrosities which disfigure so many of our edifices, public and private, by leading others to test the system, will be my excuse for making this communication.—A WORKING BRICKLAYER.

OPENINGS IN THE CITY.—It has often occurred to me that advantage should be taken of any casual openings to improve the public ways; and not to let slip one, which I perceive at present fitted to subserve the object in view, I beg to allude to the pulling down of a large pile of buildings in Bell-yard, Gracechurch-street, where the Cross Keys Inn used to be; and it is to be hoped, that now so much space is vacant, care may be taken not to *crowd* buildings on to the same spot. I suggest, that instead of a dingy dark court-yard, surrounded with blind alleys, there should be a break in the continuous line of brick and mortar facing Gracechurch-street, and that, in the space thus thrown open by the pulling down of houses, a nicely flagged square, or "*place*," as the French have it, should be allowed to grow up. The width to be sufficient to give light to rooms looking into the said square or "*place*," from houses on each side, and that there be no projections, in order that the windows from the first floor upwards should command the thoroughfare in Gracechurch-street. On the ground-story there might be a range of projecting shops, which would not interfere with the upper windows commanding the street (Gracechurch-street), nor prevent their being let, whilst these shops might be themselves well lighted from dome roofs, as well as from their front windows.—CIVIS.

THE MASONS' STRIKE AT GRIMSBY IS still, we regret to say, unsettled. The cause appears to have been the refusal of the contractors to return to the 5s. a-day given before the short-day reduction to 4s. 6d., their alleged intention being on the contrary to reduce the wages still further.

DISTRICT SURVEYORS' CHARGES.—Differing from my friend Mr. Baker, I think you have with great kindness and judgment (for which you deserve the thanks of the district-surveyors) forborne to give the name of one who has been convicted by the official referees and the Board of Works of making exorbitant charges. But for this Mr. Baker finds fault with you, fearing lest the censure given anonymously might fall upon him. I have no such fear; nor do I wish to defend the system of charges in question; but still, as a district surveyor, I offer you my thanks for the delicacy you have shown in your report of the case, and I do think that Mr. Baker, who is so vehement in his condemnation, does not sufficiently bear in mind the difficulties attending the introduction of a professedly difficult Act into a new district. Charity becomes us all, but more especially when a brother's failings are made manifest.—EDW. C. HAKEWILL.
Craig's-court, Charing-cross.

DARTFORD.—On the 17th instant the organ in Dartford Church was re-opened. During the past winter the instrument has been much enlarged; and to avoid obstruction to the fine Decorated west window, and to forward other improvements in the church, it has undergone an entire reconstruction. The restoration or reconstruction of the window in the vestry-room progresses. Little doubt exists in the writer's mind that this window was altered during the reign of King Henry VII., from a triple Early English window to a Perpendicular, and hence the weakness which caused it to fall in last year. Care has been taken of the nearly perfect collection of Oxford albs hitherto kept in this room, and during the restoration they have been removed to the Armoury. In this Armoury the fittings put up during the Commonwealth still remain.

ENCOURAGEMENT TO ARCHITECTS.—The Town Council of East Retford have announced their determination to have a corn exchange, and to give, for "the best plan" (not forgetting "specifications and estimates"), the munificent sum of three *guineas* (note the gentility of the odd shillings); for the second best, only one *guinea* less; the remaining guinea to be thrown away upon the third! Architecture is looking up amongst the wise men of East Retford.—We almost forgot to warn all and sundry, by the way, that "the town council of East Retford" have also determined "not to give *anything* for plans not *deserving* of *merit*,"—such plans certainly not being deserving of *payment* at least, in the face of others whose own *merit* must constitute their best,—since it will be their only,—payment or solatium at East Retford.

THE SOCIETY OF BRITISH ARTISTS will open their exhibition to the public on Monday. The collection is thought to be above the average degree of merit. Mr. Hurlstone has two very good works; Mr. Herring some beautiful bits; Mr. Baxter an excellent head of Mr. Clint. Mr. Allen, Mr. Pyne, Mr. Noble, Mr. Percy, Mr. Anthony, and others, exhibit some good specimens of their art.

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Part VII. will be published May 1, and Part VIII. will complete the work. To prevent disappointment, the names of parties intending to take the work when completed should be sent forthwith.

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TO CORRESPONDENTS.

"Bricklayer," "T. P.," "G. J. R.," "A Master of Arts," "An Old Subscriber," "Not a Common Councilman" (shall appear), "F. H.," "J. G. H.," "W. Y. P." (too late for this number), "W. E. H.," "Old M.P.," "Amelia" (the book in question contains much curious and ingenious matter, but our correspondent, being "a young student," may safely defer buying it until she has an opportunity to look through it first. We are always glad to find ladies interested in the matters of which we treat), "P. B." (under our mark), "Publicola" (we are not disposed to object to the selection of Hyde-park as the site of Industrial Exhibition), "R. L. S.," "T. M. G.," "Beowulf," "A Working Bricklayer" (we believe the brick in question has been registered), "T. S." (we see no advantage to compensate for increased expense), "P. H. H." (declined, with many thanks), "T. P." (apply to the Committee of Privy Council for Education, Whitehall), "W. B. A.," "S. H.," "D. H.," Birmingham, "J. O.," "An Amateur," "N. W.," "B." (declined, with thanks: shall be returned), "C." (thanks: the article does not seem to contain anything new).—"Sections of the London Strata," by R. W. Mylne, C.E. (Wyld, Strand, 1850.)

"*Books and Addresses.*"—We have not time to point out books or find addresses.

NOTICE.—All communications respecting *advertisements* should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the EDITOR, and *not* to the Publisher.

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PUBLICATIONS.

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1-inch Cut Lath, 14s. per cwt. Cast Lath, 9s. 6d. per cwt.
6-inch 2-bolts Rim Locks, with Scotch Springs, best furniture, patent spindles, 15s. a-dozen.
6-inch 3-bolts Ward Round Mortise, with best furniture and patent spindles, 2s. 9d. each.
Improved Bow Latches, with best furniture, 7s. a-dozen.
P.S.—A List of Locks, Bolts, and other Ironmongery, on application.

TO BUILDERS, CABINET-MAKERS,

and OTHERS.—Best Cut Sheet Flooring Brads, 12s per cwt.

Fine Cut Clasp and Rose.

15s.	14s. 6d.	14s.	13s.	13s. per cwt.
1½	1½	2	2½	3 inch.

Cross Garnet Hinges, per dozen pair.

2s. 9d.	3s. 3d.	4s. 3d.	5s.	6s.	8s.
10	12	14	16	18	20 in.

Best Bright Tower Bolts, per doz.

1s. 3d.	1s. 7d.	2s. 2d.	2s. 10d.	3s. 3d.	3s. 7d.
3	4	5	6	7	8	9 in.

Iron Rain-water Pipe.

9½d.	10½d.	1s. 1d.	1s. 5d.	1s. 8d. per yard.
2	2½	3	3½	4 inch.

Best London Glue, 38s. per cwt.
Cast Lath Nails, 10s. per cwt.
Air Bricks, 3s. 6d. per doz.
Hooping for bond, 8l. 10s. per ton.
Sash Weights, 5s. per cwt.
TERMS—NET CASH.

A. L. PFEIL and Co.,
Wholesale Ironmongers, Brass Foundry and Nail Warehouse,
5 and 6, Broad-street, Bloomsbury, London.
AGENTS FOR LEA'S PATENT MORTISE LOCKS AND BOLTS.

TO BUILDERS, CARPENTERS, &c.—

The undermentioned are the PRESENT PRICES of IRONMONGERY, at YOUNG'S, 194, Oxford-street. Every other article equally low. Orders executed upon receipt of remittance or a respectable London reference.

	2	2½	3 Inches.
Cast Butts.....	5s. 3d.	7s. 6d.	11s. per 6 dozens.
Cut Clasp.....	5d.	7d.	1s. 2d. 1s. 8d. per
	4d.	6d.	10d. 20d. 1,000.

	Nos. 3	4	5	6	
Patent Line	6s.	7s. 3d.	9s.	10s. 9d. per gross	
	2	2½	3 Inches.		
Rain Pipe	9½d.	10½d.	1s. 1d. per yard.		

IRONMONGERY WAREHOUSE.—

J. GRICE, begs to call the attention of Builders and others, to his noted Stove Grate and Ironmongery Warehouse, 18, WALWORTH ROAD, LONDON.

Cut Sheet Flooring Brads, 11s. 9d. per cwt.
Cut Clasp Nails.

15s.	14s. 6d.	14s.	13s.	12s. 6d. cwt.
1½	1½	2	2½	3 in.

Cast Rain Water Pipe.

9d.	11d.	1s. 1d. per yard.
3	3½	3 in.

Iron Gutter, 4 in., 9d. per yard. Air Bricks, 3s. per doz.
1-inch Cut Lath, 13s. 9d. per cwt. Sash Weights, 5s per cwt.
6-inch 2 bolt Rim Locks, Scotch Spring, best patent furniture 14s. 6d. per dozen.
Self-acting Kitchen Range, with Oven and Boiler.
36 inches, 36s. each. 40 inches, 40s. each.
Elliptic Stove, Double Backs, 2½d. per inch.
Register Stoves, 5d. per inch.
HOT WATER APPARATUS, on improved principles.
Palisade, Balconies, Bell-hanging, &c., and Workmen sent to all parts of the country.
GRICE'S Smithery and Iron Warehouse, 18, Walworth-road. Goods delivered within four miles.

TO BUILDERS AND CARPENTERS.

J. H. BOOBBYER and CO., late Sturch

and Boobbyer, at their Ironmongery, Brass Foundry, and Nail Warehouse, No. 14, Stanhope-street, Clare-market, London, for the supply of Carpenters, Builders, Cabinet-makers, Upholders, &c., at wholesale prices.

Best Cut Sheet Flooring Brads, 12s. per cwt.
Fine Cut Clasp and Rose.

15s.	14s. 6d.	14s.	13s.	13s. per cwt.
1½	1½	2	2½	3 inch,

Best Bright Tower Bolts.

1s. 3d.	1s. 7d.	2s. 2d.	2s. 6d. per dozen.
3	4	5	6 inch.

Best Patent Sash Line.

4s.	4s. 6d.	6s.	7s. 3d.	9s.	10s. 9d. per gross.
No. 1	2	3	4	5	6

Cast Lath Nails, 10s. per cwt. Sash Weights, 5s. per cwt.
Air Bricks, 3s. 6d. per dozen.

DR. ARNOTT'S VENTILATORS.

11 by 8 inches ..... 5s. each.
16 by 9 „ ..... 8s. „
An assortment in Brass, Bronzed, Gilt, &c.

An extensive stock of Mortise Locks, Drawback Locks, Iron Rim Locks, and Latches, of every description, at very reduced prices; also Door Furniture, in china, amber, crystal, ivory, ebony, buffalo, horn, brass, &c., with Finger-plates, Bell-pulls and Levers *en suite*.

Agents for LEA'S PATENT MORTISE LOCKS and BOLTS, and inventors of SHIFTING BOLT MORTISE LOCKS &c.

PROTECTION from FIRE, and GREAT

ECONOMY in BUILDING.—A pamphlet, descriptive of the method by which both these important objects are secured, may be obtained on application to Messrs. FOX and BARRETT, 46, Leicester-square.

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE-

PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths, fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

WINDOW SASH LINE.—R. S.

NEWALL and CO.'S PATENT COPPER WIRE CORD is now very extensively used for window sash line, the advantages being, that it is cheaper, much more durable, about half the weight, and one-sixth part the bulk of common hempen rope. Brass Axle Pulleys to suit the same.
COPPER WIRE ROPE LIGHTNING CONDUCTORS.
GILT AND PLATED CORD FOR HANGING PICTURES.
WIRE STRAND FOR FENCING IN PARKS, RAILWAYS, &c.
Office, 130, Strand, London; Warehouse, Brunswick-street, Blackwall; Manufactory, Gateshead-on-Tyne.

PATENT WROUGHT NAILS.—These

Nails are submitted to the notice of Builders, Contractors, and Ship-builders, as being superior to any others, and cheaper. They have the toughness of the best hand-made nails, with far greater uniformity of make. The flat pointed rose nails are particularly recommended wherever oak or other hard wood is used: being perfectly chisel-pointed, they require no boring, and will drive into the hardest wood without splitting it, and their heads being very strong do not fly off. The patent wrought nails may be had of all ironmongers, and a stock of them is kept at the warehouses of the agents, HIGGS and GEORGE, Wholesale Ironmongers, 179, Borough, London.

IRON FOUNDRY, 80, Goswell-street (late of

Brick-lane, St. Luke's).—J. J. JONES having made great additions to his STOCK of PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

TO GAS AND WATER COMPANIES, ENGINEERS, AND CONTRACTORS.

ANDREW M'LAREN & Co., Ironfounders,

STEEL YARD WHARF, UPPER THAMES-STREET, have always on hand a large STOCK of SOCKET PIPES of all sizes, with the usual connections. Retorts, columns, girders, and all description of castings contracted for.
Their stock of goods for GENERAL IRONMONGERS is unequalled for variety and lowness of price: comprising, range, register, and elliptic metal and stoves, rain-water pipes, O. G., and half-round guttering, sash-weights, railing bars, panels, bakers' oven work, sink traps, air bricks, water closet metal, &c. &c.
Printed list of prices, and books of drawings for the use of ironmongers, forwarded on application.

THE GALVANIZED IRON COMPANY,

No. 3, Mansion-house-place,
Call the particular attention of Architects, Builders, and others, to their patent process of galvanizing, or coating iron with PURE ZINC, which, from its action being chemically true, effectually and PERMANENTLY prevents RUST. The process is applicable to all sorts of iron work (whether cast or wrought) in use for building purposes—such as ROOFS, gutters, girders, floors, WATER or GAS PIPES, railings, window sashes and guards, blinds, skylight frames, chimney cowls, cisterns, screws, nails, locks, keys, chains, wire guards, &c., &c., &c. The Company undertake to supply GALVANIZED IRON, or to GALVANIZE every description of iron work, in any quantity required.—Particulars and prices at the Offices of the Company, 3, Mansion-house-place. London Galvanizing Works, Millwall, Poplar.
S. VINCENT, Secretary.
N.B. This Company's patent process is applied to the roofs of the New Houses of Parliament, the sheds in the dockyards at Woolwich, Portsmouth, and Devonport, the Waterloo Station belonging to the London and North-Western Railway Company at Liverpool, and numerous other railway stations, &c., &c., with the most perfect success.

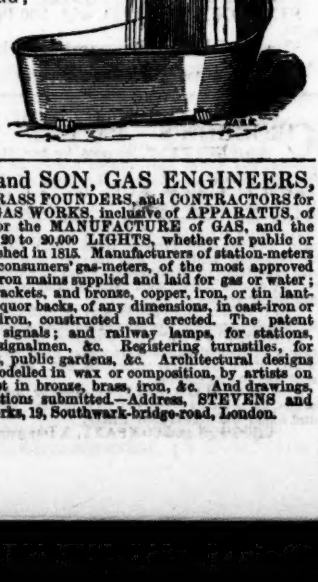
IRON ROOFING WORKS,

SOUTHWARK.
Office,—3 A, MANSION-HOUSE-PLACE, LONDON.
JOHN H. PORTER,
PATENTEE
Of the Corrugated Iron Beams, Girders, and Fire-proof Floors; MANUFACTURER OF IRON ROOFS AND BUILDINGS, Chiefly of
THE PATENT GALVANIZED IRON.

This material has been employed by J. H. PORTER for several years past in the construction of Iron Roofing for RAILWAY STATIONS and DOCKYARDS, at home and abroad; FARM BUILDINGS, FACTORIES, GASWORKS, WAREHOUSES, &c.; SUGAR-HOUSES, MEGASS and COFFEE-SHEDS, STORES, DWELLINGS, and MARKET-PLACES, in the East and West Indies, China, at the Cape of Good Hope, and in other parts of the world; Iron-bar and Strained-wire Fences, Sheep and Cattle Hurdles.

A. WHYTOCK, 494,

New Oxford-street, London, begs most respectfully to inform Builders and the public, that he has removed to the premises as above, where he has on sale a complete variety of BATHS, all manufactured of Morewood and Rogers's Patent Galvanized Tinned Iron. The accompanying sketch represents a Plunging, a Shower, and Springing Bath combined, which A. W. has secured by registration.



It costs no more than the old-fashioned Shower Bath, while from its simplicity it is free from liability of getting out of order.

A. W. continues to supply
PLAIN AND CORRUGATED ROOFING;
and Houses made of the Patent Meta', or
CALIFORNIA AND THE COLONIES.

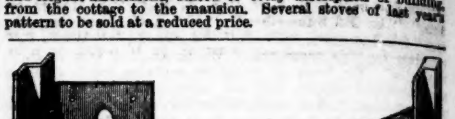
WORKS, 5, QUICK-SET-ROW, NEW-ROAD.

STEVENS and SON, GAS ENGINEERS,

IRON and BRASS FOUNDERS, and CONTRACTORS for the ERECTION of GAS WORKS, inclusive of APPARATUS, of every description, for the MANUFACTURE of GAS, and the FITTINGS of from 20 to 20,000 LIGHTS, whether for public or private use. Established in 1815. Manufacturers of station-meters and governors; and consumers' gas-meters, of the most approved construction. Cast-iron mains supplied and laid for gas or water; street-lamp posts, brackets, and bronze, copper, iron, or tin lanthorns. Tanks and liquor backs, of any dimensions, in cast-iron or galvanized wrought-iron, constructed and erected. The patent semaphore railway signals; and railway lamps, for stations, engines, carriages, signalmen, &c. Registering turnstiles, for bridges, piers, baths, public gardens, &c. Architectural designs carved in wood, or modelled in wax or composition, by artists on the premises, and cast in bronze, brass, iron, &c. And drawings, plans, and specifications submitted.—Address, STEVENS and SON, Darlington Works, 19, Southwark-bridge-road, London.

RADIATING REGISTER STOVES, by

the original Manufacturer, HARRIS WATSON, 19, Wilson-street, Finsbury-square, who has constantly on view a large and elegant assortment, suited to every description of building, from the cottage to the mansion. Several stoves of last year's pattern to be sold at a reduced price.



JENNINGS' PATENT SHOP SHUTTER

SHOES and FASTENERS, INDIA RUBBER TURN-COCKS, and WATER CLOSETS, can be had through any plumber or ironmonger. The only manufacturers are—JOHN WARNER and SONS, Crescent, Jewin-street, and GEORGE JENNINGS, Patentee, 29, Great Charlotte-street, Blackfriars-road.—Descriptive drawings and testimonials sent free, on application.

TO BUILDERS AND OTHERS.

HART and SONS, Wholesale and Manu-

facturing Ironmongers, Nos. 53, 54, and 55, Wych-street, Strand. Established 1819. Proprietors and sole Manufacturers of PITT'S PATENT SELF-ADJUSTING DOOR FURNITURE and SPINDLES, and Manufacturers of Dr. ARNOTT'S VENTILATING CHIMNEY VALVES.
HART and SONS solicit the attention of Builders, House Decorators, Smiths, Bell-hangers, &c. &c. to their extensive and well selected stock of DOOR FURNITURE in every suitable material, *en suite* with finger-plates, bell-pulls, levers, &c., and also to their LOCKS and LATCHES in mortice, rim, drawback, iron gate, cabinet &c., of all qualities, including Barron's, Bramah's, Chubb's, and Pitt's Patent.—To their
GENERAL IRONMONGERY, wrought and cut nails, screws hinges, bolts, &c. &c.
BRASS FOUNDRY—Bell cranks of all descriptions, cornice poles, picture rods, skew door handles, desk and hat rails, window guards, Espagniolette bolts, &c. &c.
DOOR SPRINGS and HINGES, including Redmund's, Smith's, Gerish's, and Cotterell's patents.
WINDOW BLIND FITTINGS of the most approved principle.
LEA'S RACK BOLT MORTICE LOCKS, for which they are AGENTS, as well as for all inventions of merit as soon as perfected.
HART and SONS, aware that the practice of publishing NET price-lists is injurious to the interests of the trade generally, are unwilling to follow it, but at the same time they beg to assure their friends that their prices shall be equally as low as those of any other respectable house.

FUNERAL FEATHERS.—

TO UNDERTAKERS, UPHOLSTERERS, CABINET-MAKERS, and BUILDERS.—G. SHADBOLT and Co., Funeral Feathermen, beg to inform the trade that they have REMOVED their FEATHER BUSINESS from Church-street, Soho, to No. 9, Walbrook, City (near the Mansion House), where all orders will in future be received, and punctually attended to in town or country.

EVANS'S MINERAL OXIDE PAINTS.

Offices, 8, Philpot-lane, London.

Stone or drab, oxide of zinc.....	25s. per cwt.
Black, oxide of lead.....	25s. „
Dark brown, oxide of iron	20s. „

Packages of 1 cwt. and upwards are not charged.

These preparations of the Mineral Oxide Paints will be found more durable, and at the same time more economical, than any other paints. They are warranted to protect the surfaces to which they may be applied against rust, dry rot, and decay. They are proof against atmospheric action, gases, and salt water. Directions for use are affixed to every package.

GUTTA PERCHA PAPER.—The known

quality of Gutta Percha for resisting damp, makes it preferable to every other vegetable substance as a lining for damp walls. The superior manner in which the two sheets of paper are united with the Gutta Percha, renders this article easy of application to the wall, and complete in its effects when there.
To be had only at JEFFREY and ALLEN'S Paperhanging Factory, Whitechapel High-street.
JEFFREY and ALLEN continue to supply the Trade with block and machine-made paperhangings, combining elegance of design with good workmanship and low prices.

PAPER-HANGINGS.—COTTERELL,

BROTHERS, No. 500, New Oxford-street, London, invite the attention of Architects and Builders to their superior and important collection of FRENCH and ENGLISH PAPER-HANGINGS. The stock, which is very extensive, embraces every description of paper-hangings, from the simplest to the most finished in use, and will be found in chaste design and harmonious colouring well adapted to the improving taste of the public, and at prices quite in accordance with the economical spirit of the times. The specimens of panel designs, or decorations for walls and ceilings, are well worth the inspection of persons of taste; by novel arrangement they are fitted so that the finished effect of a room may be seen at a glance; strict attention is paid to architectural propriety and harmonious combinations of form and colour, often so lamentably deficient in this class of designs. The show-rooms are constantly open to visitors, at 500, New Oxford-street, London; and in the west of England, at Bristol and Bath.

PAPER-HANGINGS at E. T. ARCHER'S

Manufactory for English, and Warehouse for English and French Paper-hangings, and all materials connected with the trade. The Panelled Decorations are fitted up on the walls of an extensive range of show-rooms, giving at one view a drawing or dining-room furnished fit for occupation.

LIST OF PRESENT PRICES.

Painted marble, granite, and oak papers	1d. per yard.
Superior bed-room papers.....	1d. „
Satin ground papers for bed-rooms, drawing and dining rooms.....	3d. „
Flock papers on grounds, and crimson flock on oak	4d. „
Bronze drawing-room papers	9d. „
Rich gold paper	1s. 6d. „
Ditto and Flock	2s. 0d. „

10,000 feet of gilt mouldings always in stock.

E. T. ARCHER, 481, OXFORD-STREET, LONDON.

January, 1, 1850.

HORNE'S INDIA-RUBBER PAPER

for DAMP WALLS is the cheapest and best hitherto offered to the trade, the price being 2s. 6d. per piece of twelve yards, and its being entirely free from the unpleasant odour arising from gutta percha and pitch papers, and considerably lower in price, is an important desideratum in its favour.—ROBERT HORNE, PAPER-HANGING MANUFACTURER, 41, Gracechurch-street, City, at the same time invites builders and the trade to inspect his extensive stock of NEW DESIGNS IN PAPER-HANGINGS, which, by the aid of powerful machinery, he is enabled to offer at the following unprecedented prices, in stock quantities, for cash only, viz.:—

Stout lining paper		4½d
Superior ditto	6d. and	7d.
Bed-room papers, in great variety	at	5d.
An excellent oak paper.....	at	9d.
Sitting-room ditto, on blended grounds	7d. to	9d.
Hand-made marbles	1s. 0d. to	1s. 6d.
Good satin papers	1s. 9d. to	2s. 0d.
Rich flock papers (by a new process) ..	2s. 0d. to	2s. 6d.
Hand-made granites.....	10d. to	1s. 0d.

Every novelty in French and English panelled decoration always on hand; also excellent imitation of fancy woods, superior to any hitherto manufactured on paper.
N. B. Patterns sent into the country, showing the style and quality of the above, on receipt of two postage stamps, and the goods despatched with promptitude on receipt of a remittance to the amount of the order given.—Folding screens in great variety, wholesale and retail.—To be obtained only at HORNE'S Wholesale and Retail Establishment, 41, Gracechurch-street, London-bridge